X/114

PROGRESS REPORT

OF

FOREST ADMINISTRATION

IN THE

NORTH-WESTERN PROVINCES AND OUDH

FOR

1877-78,

BY G. GREIG, ESQ.,
CONSERVATOR OF FORESTS, NORTH-WESTERN PROVINCES,

AND

CAPTAIN E. S. WOOD,
CONSERVATOR OF FORESTS, OUDH,

WITH A REVIEW BY THE LIEUTENANT-GOVERNOR

AND

ORDERS BY THE GOVERNMENT OF INDIA.

1879.

114

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No. 503F., dated Simla, the 7th June 1879.

From—A. O. HUME, Esq., C.B., Secretary to the Government of India, Department of Revenue, Agriculture and Commerce,

To—The Secretary to the Government of the North-Western Provinces and Oudh, Revenue Department, Forest Branch.

I AM directed to acknowledge the receipt of your letter No. 159, dated the 21st February last, giving cover to the Annual Reports on the Forests in Oudh and the North-Western Provinces for 1877-78, with a copy of the orders by His Honour the Lieutenant-Governor thereon. These orders are dated the 21st February, and they reached the Government of India on the 28th idem. The Annual Forest Reports are due on the 1st September of each year, and it is in every respect most inconvenient for the Government of India to receive them at so late a date as that on which the reports under review came to hand. The Governor General in Council trusts that in future all such reports will be submitted without fail by the date prescribed.

2. The area of the forests recorded as reserved in these reports stands as follows:—

	On 1st April 1877.	On 31st March 1878.
	Miles.	Miles.
North-Western Provinces	2,568	2,360
Oudh	824	1,113
	3,392	3,473

These are the figures recorded in the reports. There has been an addition of 42 square miles in Jaunsar, but the other changes in the figures are due to the transfer of the Bareilly and Gorakhpur forests to the Oudh Circle, and to discrepancies which require explanation:—thus, for instance, in the Oudh Forest Report it is said that the areas transferred from the North-Western Provinces are—

	Square miles.
Bareilly Division	168
Gorakhpur „	125
Total ...	293

but in Statement No. 45 attached to the Report of the North-Western Provinces the areas transferred to Oudh are said to be—

	Square miles.
Bareilly Division	137
Gorakhpur „	115
Total ...	252.

Under the Indian Forest Act of 1878, some of the forests in the North-Western Provinces and Oudh have been declared as reserved, others as protected forests. The figures quoted at the commencement of this paragraph are, therefore, not final.

3. In paragraph 3 of the orders on the Forest Report of the North-Western Provinces for 1876-77, the state of the boundaries of the Gorakhpur forests was adverted to. Paragraph 69 of the Oudh Report shows that the Conservator appreciates the importance of good boundary marks and continuous boundary lines, and that some progress has been made in the settlement of boundary disputes and repairing the boundary pillars in that district. The report of the progress made in settling boundary disputes and surrounding the Kheri forests by a three-foot ditch, recorded in paragraph 22 of Captain Wood's report, is satisfactory. Every effort should be made to place the boundaries of the Government forests in the Bareilly district upon a satisfactory footing, which, it is concluded from paragraph 16 of the Conservator's Report, they are not at present.

4. The Governor General in Council regards the maintenance of good boundary-marks as an essential condition to ensure the protection of the Government forest domains. At the same time, it appears to be only just and fair to the people living in the vicinity of the forests that the boundaries of these forests should everywhere be clearly marked, so that they cannot easily be mistaken. It will be well if the Conservators of the other two forest circles in the North-Western Provinces will bear these remarks in mind, and will record in their annual reports whether anything remains to be done for the better definition of the boundary lines, and will report any progress that may be made in this respect.

5. The area protected from fire to 30th June 1877 was stated in the Report for 1876-77 to have been as follows:—

	Acres.
North-Western Provinces	301,330
Oudh	30,027
Total ...	331,357

The area successfully protected, which is understood to relate to the commencement of the rains of 1878, is given as follows:—

	Acres.
North-Western Provinces	243,143
Oudh	101,515
Total ...	344,658

The decrease in the North-Western Provinces and the increase in Oudh is owing to the transfer of forests already noted. The increase in the fire-protected area as recorded is not considerable, but an area of 19,967 acres in the Bhagirathi valley, reported to have been protected in 1877, is excluded from the present return, though it is not said that the forest was burnt.

6. In paragraphs 32, 34 and 49 of his report, the Conservator of the Oudh Forests reports the beneficial effect of fire-protection upon the young growth both in sissu and sál forests.

The expenditure on fire-protection is reported to have been—

	North-Western Provinces.	Oudh.
	Rs.	Rs.
From the commencement to 31st March 1877 ...	24,897	8,985
In 1877-78 ...	14,765	3,553
Total from the commencement ...	39,662	12,538

I am directed to draw attention to the great increase in the expenditure of the North-Western Provinces.

7. Good work appears to have been done in the construction of roads, wells and rest-houses. The outlay on this account was—

	North-Western Provinces.	Oudh.
	Rs.	Rs.
Roads and bridges	32,608	8,499
Buildings	3,443	11,775
Other works	36	2,598
Total ...	36,087	22,872

The Governor General in Council has no reason to doubt that the outlay was judicious, and that the works constructed will facilitate the protection and working of the forests. But the annual outlay is large, and more information regarding these works should be given. What Captain Wood says regarding the works constructed in the Kheri Division in paragraphs 23 to 26, and in the Bahraich Division in paragraphs 44 to 47 of his report, is satisfactory. But even in the Oudh Report more information should in future be given, and the outlay on maintenance and new construction should be distinctly stated. The North-Western Provinces Report contains no information regarding the Nindhore valley road in Kumaun, and insufficient data regarding the Bhagirathi valley road, both of which were mentioned in paragraph 11 of the orders on the Report for 1876-77.

8. The results of the valuation surveys made by Mr. Dansey in the Mondhal forest, recorded in paragraph 12 of Mr. Greig's report, have been noticed. These valuation surveys have been the subject of two memoranda by the Inspector General of Forests, which were communicated to the Government of the North-Western Provinces, and it will not be necessary to say more on the present occasion, than that it is not understood why the sál and sissu trees of the first class were counted under nine separate sub-classes according to the length of the timber. This additional sub-division must have greatly increased the labour entailed by these surveys, and it is not understood whether this additional detail is actually required.

9. As regards the working of the forests, it is satisfactory that the sales at the Moradabad Depôt have increased, as reported in paragraph 35 of Mr. Greig's report, and that in paragraph 11 of his report Captain Wood speaks hopefully of Bahramghat. The measures contemplated to be taken, as reported in paragraph 27 of the Oudh Report, for making the grass lands included in the forests of the Bhira Sub-division more profitable for grazing, seem judicious. Every effort should be made to utilize as far as possible all portions of the Government forest domains. As pointed out by Captain Wood, a larger area of the two forests can be closed against grazing if the pure grass lands, which are unfit for the growth of forests, are better utilized for pasture.

10. The remarks made in paragraph 34 of His Honour's review, regarding the management of the forest charges in the Oudh Circle, so as to make their boundaries more conterminous with those of Civil districts and divisions, have been read with interest, and the Governor General in Council will be glad to learn the conclusions formed on this subject by His Honour the Lieutenant-Governor.

11. The financial results of the year have been as follows:—

	North-Western Provinces.	Oudh.
	Rs.	Rs.
Receipts	8,00,156	4,02,952
Charges	5,22,278	2,05,947
Surplus	2,77,878	1,97,005

The receipts include Rs. 5,14,644 in the North-Western Provinces, and Rs. 2,15,965 in Oudh, realized by the sale of timber and other forest produce removed from the forests by Government agency. The value of timber and other forest produce on hand at the commencement and close of the year is reported as follows:—

	North-Western Provinces.	Oudh.
	Rs.	Rs.
Value of stock on 1st April 1877 ...	3,61,565	2,69,886
" " 31st March 1878 ...	3,35,093	2,11,403
Decrease in value	26,472	58,483

Compared with the amounts realized by sales, the stock in hand seems large, and I am directed to enquire whether it would not appear expedient to make arrangements for gradually reducing these large stocks in hand.

12. In paragraph 80 of his report, Captain Wood gives a statement showing the amounts chargeable to the three great heads of "Departmental timber operations," "Other revenue," and the "Formation, protection and improvement of the forests." These statements are useful, and it will be well if the Conservators of the other two circles will record similar statements in their reports, the amounts being allotted to the three main heads named, with due regard to all circumstances of the case.

13. The remarks recorded in paragraph 37 of the Lieutenant-Governor's orders on these reports, regarding the advantage of placing Forest administration entirely under the Local Government, will be discussed in a separate communication.

14. The Governor General in Council has noticed with satisfaction the high praise bestowed by His Honour the Lieutenant-Governor upon Mr. Greig, and is glad to learn that Captain Wood conducts his duties with zeal and efficiency.

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ERRATA.

PARA. 4, Clause 1, *for* "square miles"
read acres.

PARA. 9, *for* "Roads and bridges, Rs. 32,617"
read Roads and bridges, Rs. 32,607.

PARA. 12, Column 4 of Statement, *for* 1,211,443 cubic feet—Felled
read 992,894 cubic feet—Felled.

PARA. 16, Column 1 of Statement, *for* 7,703 No. on hand
read 77,033 No. on hand.

Column 3 of Statement, *for* 363,955 No. felled
read 286,922 No. felled.

Column 4 of Statement, *for* 710,201 cubic feet
read 538,025 cubic feet.

No. 155 of 1879.

REVENUE (FORESTS) DEPARTMENT.

Dated Allahabad, the 21st February, 1879.

RESOLUTION.

ANNUAL PROGRESS REPORTS OF FOREST ADMINISTRATION FOR THE NORTH-WESTERN PROVINCES AND OUDH FOR THE YEAR 1877-78.

1. THESE reports have been submitted separately, but in order to show as a whole the forests under the charge of the Government of the North-Western Provinces and Oudh, they will be dealt with together in this review.

2. *Area, boundaries, gazetting of forests, &c.*—The total area of reserved forests at the beginning and the end of the year may be shown thus:—

		Area on 1st April, 1877.	*Area on 31st March, 1878.*	*Increase or decrease.*
		Sq. m.	Sq m.	Sq. m.
North-Western Provinces	...	2,570	2,360	−210
Oudh	...	824	1,113	+289
Total	...	3,394	3,473	+ 79

These figures are taken from the reports of the respective Conservators, but there is a discrepancy in the details relating to the transfers from one circle to the other which the Conservators will be desired to reconcile. Thus:—

	Gorakhpur.	*Bareilly.*
	Sq m.	Sq. m.
The Conservator, North-Western Provinces, shows as transferred to the Oudh Circle	115	137
But the Oudh Conservator gives the areas as ...	125	168

The difference in Gorakhpur is apparently explained in para. 21 of Mr. Greig's report for 1876-77. If there be nothing further to be said, the area suggested by Mr. Greig (115 square miles) should be accepted for the present. In the North-Western Provinces, 42 square miles were added in the Jaunsar division. In Oudh four square miles belonging to grantees, but hitherto improperly included in the areas of the State forests, have been eliminated. As in the previous year, there were only 9 square miles of unreserved forests in the North-Western Provinces, which are in the Bijnor district. There are no unreserved forests in Oudh.

3. The divisions and subdivisions into which the forests are divided are shown below, together with the officers who held charge during the year:—

Division.	Area. Square miles.	Officer in charge.
North-Western Provinces.		
Naini Tal subdivision	38	Mr. Braidwood.
Kumaun	672	Captain Campbell.
Ránikhet subdivision	67	Mr. Brereton.
Garhwál	558	" Grant.
Dehra Dun	563	" O'Callaghan.
Jaunsar	193	" Bagshawe.
Bhágirathi	...	" O. Greig.
Jhánsi	87	Deputy Commissioner.
Lalitpur	145	Deputy Commissioner.
Bijnor	25	Collector.
Oudh.		
Bareilly	168	In charge of Collector.
Kheri	423	Mr. Dodsworth.
Bahraich	257	" Wilmot
Gonda	140	" Rebsch.
Gorakhpur	125	" Allan.

It is hoped that the question as to what forests are to be declared 'reserved' and gazetted as such under the new Act in Kumaun and Garhwál will be almost immediately settled, and the preparation of the register of reserves proceeded with. The delay has been owing to the difficulty of deciding the exact nature of the rights of villagers and others in the forests—a most complicated and intricate task ; but Mr. Greig has been recently in close and prolonged personal consultation with the Commissioner of Kumaun and the district officers, and it is understood that all obstacles have been overcome, and that these forests will, like all others in these provinces, be duly notified within the period prescribed by section 34 of the Indian Forest Act, 1878.

The proposals for defining the rights of villagers to timber in the open reserves of the Jaunsár division, referred to in para. 14 of Mr. Greig's report, have been since received, and, after the Lieutenant-Governor had availed himself of the advice of the Inspector-General of Forests, disposed of. They will doubtless be described by the Conservator in his report for the current year, during which they will come into force.

4. *Protection and improvement.*—The area covered by plantations was—

	On 1st April, 1877.	*On 31st March, 1878.*	+or—
	Sq. miles.	Sq. miles.	
North-Western Provinces ...	1,930	1,656	—245
Oudh	245	265	+ 20

245 acres in Gorakhpur which were transferred during the year are shown in the returns for both the North-Western Provinces and Oudh.

The nursery and plantation at Ránikhet still continues to do good work

The numbers and kinds of plants put out were—

Gums.	Acacia.	Deodar.	Oak.	Pinus excelsa.	Walnut.	Horse chestnut.	Alder.
29,471	1,208	35,455	23,408	1,098	400	592	740

while the following forest and fruit trees were distributed—

Forest trees.

Gums.	Acacia.	Deodar.	Walnut.	Horse chestnut.	Willow.	Miscellaneous.
4,170	500	11,732	3,232	3,201	1,961	1,039

Fruit trees.

Apples.	Pears.	Apricots.	Plums.	Cherry.	Spanish chestnut.	Miscellaneous.
325	1,764	216	255	1,389	1,156	96

The stock in the nursery consists of—

(1.)—*Forest trees.*

Deodar	160,130
Walnut	79,500
Horse chestnut	10,500
Oak	9,722
Ash	5,040
Willow	6,978
Miscellaneous	7,382
	279,252

(2.)—*Fruit trees.*

Apple grafted	956
„ stock	1,851
Pear grafted	4,531
„ stock	5,590
Apricot budded	490
„ stock	6,607
Plum budded	386
„ stock	5,910
Cherry budded	869
„ stock	2,591
Peach budded	161
„ stock	80
Loquat enarched	49
„ stock	550
Mulberry cuttings	433
Currant „	502
Fig stock	35
Spanish chestnut	1,936
Fruit trees ...	33,527
Forest „ ...	279,252
Total ...	312,779

In Gorakhpur the plantations for teak, tún, and bambus have been failures: the only tree with which any success was attained being sissu, which, however, requires great care and expense to make it thrive. Generally, the season, owing to the dryness, was abnormally unfavourable to the growth of young plants, and this accounts for the want of success in many places where experiments were attempted.

The amount expended on plantations was—

	1876-77. Rs.	1877-78. Rs.
North-Western Provinces	28,886	26,442
Oudh	4,310	4,478
Total	33,196	30,920

5. The area in which protection was attempted, that in which it failed, that successfully protected from fire; and the total cost of the protection up to 30th June, 1878, were as follows :—

	Area attempted to be protected in acres.	Failures in acres.	Actually protected in acres.	Cost.
				Rs.
North-Western Provinces	261,849	18,706	243,143	39,662
Oudh	114,535	13,020	101,515	12,598

On the whole, the measures adopted were successful ; but in one instance, *i. e.*, that of the Sisham Khata forest (referred to at page 11 of the North-Western Provinces report), they led to the very evil they were intended to prevent; and in burning the lines no less than 540 acres of forest were destroyed. Mr. Greig says this was great carelessness on the part of the natives, and care should be taken that efficient supervision is always exercised.

6. The Khaniari plot near Ránikhet, referred to in para. 16 of the Conservator's report, was made over to the Forest Department shortly after that report was written.

7. His Honor regrets that the management of the Chandi forest by the Superintendent of the Roorkee Workshops should be considered so unsatisfactory by Mr. Greig, whose remarks on the subject will be brought to Mr. Campbell's notice.

8. The number of buildings in Oudh belonging to the department is 15, besides the timber depôt at Bahramghát, which has been recently made over to the Forest Department by the Public Works Department.

9. Considerable progress has been made, both in the North-Western Provinces and Oudh forests, in the construction of roads, bridges, and buildings. The amount expended was as follows :—

	N.-W. P.	*Oudh.*	*Total.*
	Rs.	Rs.	Rs.
Roads and bridges	32,617	8,499	41,006
Buildings	3,442	11,775	15,217
Other works	35	2,597	2,632

It is obvious that the more communications improve, the more readily will forest produce find a sale, and that a wider market will be opened for it. The Lieutenant-Governor is glad to see that this important branch of forest administration has not been lost sight of.

10. The Commissioner of Kumaun has reported that the Rája of Tehri objects to the proposed rules for the better administration of the forests leased from him. A further reference has been made to Sir Henry Ramsay on the subject.

11. The results of prosecutions for breaches of forest rules are exhibited in the following table :—

	Prosecutions		*Convictions.*	
	Number of cases.	Number of persons.	Number of cases.	Number of persons.
North-Western Provinces	345	639	293	479
Oudh	51	140	47	125

By far the greater number were in the Kumaun division. There were only eight cases of injury by fire in the North-Western Provinces, and one in Oudh.

In some divisions, notably Garhwál and Dehra Dún, the disproportion between the prosecutions and convictions points to a possible want of due discrimination in the institution of prosecutions.

12. *Yield and working.*—The table below shows the number of trees with (for the North-Western Provinces) their contents in cubic feet felled and disposed of. There is some mistake in the Oudh appendix XIV, in consequence of which the disposal of the trees is not ascertainable. Nor is it clear why the cubic contents cannot be given even approximately for Oudh as they are for the North-Western Provinces:—

	On hand		*Felled.*		*Total.*		*Disposed of.*		*Closing balance.*	
	Number	Cubic feet.	Number	Cubic feet.	Number	Cubic feet.	Number.	Cubic feet.	Number	Cubic feet.
North-Western Provinces ..	2,966	218,549	88,777	1,211,443	91,743	1,211,443	87,998	1,018,862	3,745	192,591
Oudh ..	4,219		5,679	...	9,898	...	4,219	...	5,679	...
Total ..	7,185	...	94,456	...	101,641	...	92,217	...	9,424	...

Out of 88,777 trees felled in the North-Western Provinces, 40,096 were in the Garhwál division and 27,686 in the Ránikhet division. The principal kinds in Garhwál were kokat and bambus, the number of the latter being 24,000, or five-eighths of the entire fellings in the division. In Ránikhet no less than 26,265 were chír, and of these 24,316 were given to villagers free of cost. In the preceding year 17,950 chír trees were given free to the villagers in this division, and it was explained that this was necessary to enable them to comply with an order requiring them, for sanitary reasons, to build cattle-sheds apart from their dwelling-houses, in place of housing their cattle in the lower stories of their own dwellings. It is now said that the enormous grants during 1877-78 are due to the same cause, but that in future it should be possible to keep the number down to 7,000 per annum. The subject is one which the Conservator should, if necessary, discuss with the district authorities. All possible aid should be afforded by the department towards the accomplishment of so necessary a sanitary reform, but care should be taken that no more timber than what is actually required for the purpose is appropriated under that pretext.

13. 2,488 sál trees were cut in Kumaun, chiefly in making fire lines; 4,164 in Kheri, where the fellings will be reduced, as desired by the Government of India, as soon as possible; and 11,192 in the Dehra Dún, which represent the fellings of the improvement thinnings in Baláwála, where none but crooked, stunted, hollow, or overcrowded trees were felled. In the Oudh form No. 53 (appendix XIV) the fellings in the Gorakhpur division are shown as only 500 sál trees; but Captain Wood supplements the general statement by another in the same form (appendix XV), which shows that 26,797 trees, of which 10,900 were sál, were cut in thinning 250 acres of the Ramgarh forest, in the Gorakhpur division. Similar fellings in the Dehra Dún were included in the North-Western Provinces, provincial return, No. 53, and no explanation is furnished in the Oudh report for the exclusion of those in Gorakhpur. Very little is said to account for the large numbers. But a reference to the correspondence connected with the report for 1876-77 shows that the so-called "trees" cut out in these thinning operations are really very small saplings which can not

only be spared, but of which the removal is necessary. The Conservator was authorized to modify form 53 so as to distinguish between mature trees and saplings, or to enter the needful explanations in the column of remarks. He has adopted neither alternative ; the form is adhered to and headed a "statement of trees felled," and there is nothing which, without a knowledge of the earlier correspondence, would sufficiently account for the entries. Again, it is not easy to reconcile the entries in appendix XV with those in the summary of receipts and expenditure annexed to it ; one gives the number of sál and mahua *trees* as 11,338,* whilst the other shows 8,425 sál and mahua *saplings*.† The explanation probably is that the larger number includes every little plant, even though it is unworthy of the name of 'sapling,' and that the smaller plants are lumped up with all the miscellaneous woods, in the summary of receipts and expenditure, as firewood ; but if so, this should have been stated. In future, either form No. 53 should be adhered to and all fellings entered in it, the requisite explanations being given in the column of remarks ; or if any Conservator thinks this will not suffice to show in an intelligible manner what has been done, he should propose an amended form on the suitability of which to these provinces the Government will determine after consulting other Conservators. The cubical contents of poles, &c., should be given, as directed by the Government of India in para. 3 of letter No. 974F., dated 26th September, 1878, on the contents of average sized standards.

* Sál	...	10,900
Mahua	...	438
† Sal	...	8,368
Mahua	...	57

14. 1,428 deodar trees were felled in Jaunsár and 2,775 in Bhágirathi. It may be noted that as soon as the present stock of deodar timber (which is estimated to give about 50,000 sleepers) in the Bhágirathi division is exhausted, the supply from that division must cease for some years to come. It is to be regretted that the deodar fellings of the year should have been excessive, as stated by Mr. Greig in para. 27 of his report.

15. From the body of the report (para. 22) it would seem that there were fellings in the Naini Tal subdivision, but these cannot be traced in statement No. 53.

16. The number and contents of logs, sleepers, and other scantlings cut and exported from the North-Western Provinces forests is shown in the following table :—

	On hand.	Cubic feet.	Number felled.	Cubic feet.	Number disposed of.	Cubic feet.	Closing balance.	Cubic feet.
N.-W. Provinces	7,708	172,176	368,955	710,201	298,099	514,926	76,850	195,275

The Oudh Conservator furnishes no return in form No. 54, and no explanation of its omission. It is true that this is not what is styled in the Forest Code a 'prescribed' form, but it is a 'suggested' form ; and suggested forms are described as those which may, under the orders of the Local Government, be modified to suit the requirements of the province, although the information which they are intended to give is required ; and they should be submitted, unless the Conservator has obtained sanction to their modification.

17. Statement No. 55 has been filled in on a different principle in each report. In the North-Western Provinces report the entries correspond with those under "received during the year" in statement No. 56, but in the Oudh return there is a wide difference; the former seems the proper plan. The summaries at the foot of the North-Western Provinces statement Nos. 55 and 56 are useful; and it will be convenient if Conservators will, in future, give in the body of their reports abstracts showing the opening stock, the receipts, the amounts used and disposed of, and the closing balance for—

(1) Timber of all kinds, (pieces),
(2) Bambus (ditto),
(3) Fuel and charcoal (maunds),
(4) Grass (bundles),
(5) Poles, &c. (pieces),
(6) Canoes (number),

and any other items which cannot conveniently be classed under any of the above headings. For the North-Western Provinces the following information is available:—

	Balance in hand.	Brought to depôt during the year.	Total.	Lost or used by the depôt.	Removed by purchasers.	Balance.
Timber ... (pieces)	300,317	241,225	541,542	916	266,757	242,407
Bambus ... (do.)	169,887	76,468	246,355	...	123,373	122,982
Fuel and charcoal... (maunds)	113,932	29,830	143,762	1	84,687	59,074
Grass ... (bundles)	212,250	...	212,250	...	137,493	74,757
Poles, &c. ... (pieces)	54,422	...	54,422	...	42,544	11,878

18. A summary, such as Mr. Greig gives at the foot of form No. 57, of the amount of revenue contributed by the various kinds of produce, might be uniformly furnished.

19. The value of the timber and other produce sold was, for the North-Western Provinces Rs. 5,06,357, and for Oudh Rs. 1,67,039, or Rs. 6,73,396 in all. Details for the North-Western Provinces are:—

Description of timber, &c.	No. of pieces, &c., sold.	Cubic contents.	Amount realized and due on account of sale.	Average amount per log, &c.	Average cubical contents of logs.	Average amount per cubic foot.
			Rs.	Rs. a. p.		Rs. a. p
Timber	2,66,757	526,655	4,72,105	1 12 4	1′ 11″	0 14 4
Confiscated timber ...	...	...	654	...	...	...
Firewood and charcoal ...	Mds. 84,687	129,567	31,087	...	...	...
Bambus	123,373	...	609	...	...	...
Kiras and kurias ...	42,544	...	532	...	...	...
Grass	Bdles. 137,493	...	370	...	...	...

And the expenditure incurred in bringing this to depôt was:—

	Under A. I.	Quota of all other expenditure.	Total amount per piece.	Cubic contents per piece.	Amount per cubic foot.
	Rs.	Rs.	Rs.		Rs. a. p.
Timber	2,33,437	67,025	3,00,462	2′ 2″	0 7 5
Bambus	169	174	343	...	0 3 3
Firewood	33,703	7,531	41,234	...	0 5 8
Grass ... ... } Poles	436	200	636	...	...

The Oudh Conservator does not furnish the summary at the end of form 58: hence no abstract can be given.

20. The amount of timber and other produce sold to public departments in the North-Western Provinces is shown in form 59, page 81 of the report.

The aggregate value was Rs. 3,37,691, the whole of which was received. On three items only there was a small deficit of Rs. 718, and deducting Rs. 1,86,680 for timber expenses under A 1 and Rs. 50,299 for the quota of all other expenditure, the balance for the department was Rs. 1,00,712.

Form No. 59 is not furnished for Oudh as it should have been.

21. The value of the timber and live and dead stock belonging to the department in the North-Western Provinces at the commencement and end of the year, the amount received, and the amount disposed of, are shown in the summary below:—

Description of timber and other stock.	*On hand at commencement of year.*		*Received during the year.*		*Sold or otherwise disposed of.*		*On hand at close of year.*	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
		Rs.		Rs.		Rs.		Rs.
Timber (including firewood) ...	390,025	3,61,565	713,185	4,86,079	577,531	5,12,551	525,677	3,35,093
Buildings	63	53,430	7	8,997	...	...	70	62,427
Tools and plant	23,636	21,389	3,349	4,056	931	1,291	26,048	24,154
Elephants	12	23,000	...	...	...	...	12	23,000
Bullocks	...	...	14	130	...	...	14	130
Country carts	...	...	12	219	...	...	12	219
Gunpowder	lbs. 1,235	1,585	6,200	3,500	5,500	3,250	1,935	1,835
Grand Total ...	414,965	4,60,969	722,765	5,02,981	583,962	5,17,092	553,768	4,46,858

The information for Oudh is less full, but value of stock in timber, firewood, and charcoal was Rs. 2,69,885 at the commencement, and Rs. 2,11,402 at the close of the year, or a decrease of Rs. 58,483. The value of logs in transit is, however, computed at Rs. 52,000 against Rs. 320 in 1876.

22 *Financial results.*—The financial results of the year as compared with those of the previous year were as follows:—

	Receipts.		*Expenditure.*		*Surplus.*	
	1876-77.	1877-78.	1876-77.	1877-78.	1876-77.	1877-78.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
N.-W. Provinces ...	8,15,221	8,00,156	6,54,930	5,22,294	1,60,291	2,77,862
Oudh	3,35,450	4,02,951	2,05,320	2,05,946	1,30,130	1,97,005
Total ...	11,50,671	12,03,107	8,60,250	7,28,240	2,90,421	4,74,867

The Gorakhpur and Bareilly forests were transferred during the year under review from the North-Western Provinces Conservatorship to the Conservator of Oudh, and this, Mr. Greig remarks, accounts for a diminution in his receipts of about Rs. 54,000, and in his expenditure of Rs. 27,000; but the actual receipts in these two divisions were Rs. 35,946,* and the expenditure Rs. 20,644.†

	Rs.
*Gorakhpur ...	29,363
Bareilly ...	6,583
†Gorakhpur ...	18,302
Bareilly ...	2,342

The receipts were derived from the following sources :—

	I.	II.	III.	IV.	V.	VI.
	Timber and other produce removed by Government agency.	Timber and other produce removed by consumers or purchasers.	Confiscated, drift, or waif wood.	Revenue from forests not managed by Government.	Miscellaneous.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
N.-W. Provinces ...	4,84,644	2,74,034	2,575	...	8,903	8,00,156
Oudh	2,15,965	1,82,478	1,524	...	2,985	4,02,951
Grand Total ...	7,00,609	4,56,512	4,099	...	11,888	12,03,107

23. The revenue in each division, as compared with that of last year, was as follows :—

Division.	1876-77.	1877-78.
North-Western Provinces.	Rs.	Rs.
Naini Tal ...	18,010	15,285
Ránikhet ...	11,885	12,883
Kumaun ...	2,18,166	1,79,364
Garhwál ...	1,40,323	1,73,348
Dehra Dún...	67,033	77,221
Bhágirathi ...	87,964	1,21,129
Jaunsár ...	2,03,628	2,03,858
Bijnor ...	5,946	9,531
Jhánsi ...	2,860	3,319
Lalitpur ...	5,249	4,217
Direction ...	594	1
Oudh.		
Direction ...	...	...
Kheri ...	2,08,995	2,44,475
Bahraich ...	1,15,995	1,14,721
Gonda ...	10,460	7,808
Gorakhpur ...	45,152	29,364
Bareilly ...	8,410	6,583
Total ...	11,50,670	12,03,107

The receipts were Rs. 52,436 more than in the preceding year. The Conservators generally offer explanations where there is a remarkable difference between the receipts of the year under review and those of the preceding year, or the usual receipts. The falling off in Kumaun is attributed to the scarcity which kept away the hill tribes, who generally come down for bambus and other minor produce, and also the petty merchants from the plains. In 1876-77, the receipts in Garhwál were below the average owing to the illness of Mr. Colvin. In Dehra Dún the increase is due to receipts from grazing fees. In the Bhágirathi division an unusual number of sleepers were sold, and thus the receipts were abnormally increased. The Bijnor receipts include an item of Rs. 5,000 paid by the Superintendent, Roorkee Workshops. Grazing fees also account for the rise in Jhánsi. In Kheri a good deal was realized by the supply of wood to the Patna Opium Agency. In Gorakhpur the revenue was much less than in the preceding year, it having been deemed expedient to reduce considerably the fellings.

24. The expenditure in each division compares thus :—

	1876-77.	1877-78.
	Rs.	Rs.
Naini Tál	8,493	9,648
Ránikhet	15,963	18,082
Kumaun	83,899	75,202
Garhwál	83,783	57,450
Dehra Dún	38,194	49,620
Bhágirathi	1,43,219	57,408
Jaunsár	2,16,670	2,18,268
Bijnor	2,990	1,536
Jhánsi	2,100	2,339
Lalitpur	2,735	2,495
Direction	29,594	29,616
Oudh.		
Direction	22,313	16,863
Kheri	1,59,662	1,34,837
Bahraich	20,236	29,606
Gonda	3,108	3,995
Gorakhpur	22,972	18,303
Bareilly	4,318	2,342
Total ...	8,60,250	7,28,240

Thus there was a decrease of Rs. 1,32,010 as compared with the expenditure of 1876-77.

The expenditure in the Bhágirathi division in 1876-77 was exceptionally large owing to the advance of Rs. 50,000 to a contractor. This partly accounts for the expenditure in 1877-78 being so much less; another reason is that no superior officer's pay has been debited to the division for the last half of the year.

25. Taking expenditure under the two main heads—

A.—Conservancy and works,

B.—Establishment,

the figures are :—

A.

	I. Timber and other produce removed from forests by Government agency.	II. Timber and other produce removed from the forests by consumers or purchasers.	III. Confiscated, drift, or waif wood.	IV. Revenue from forests not managed by Government.	V. Rent of leased forests, &c., &c.	VI. Live and dead stock.	VII. Communications and buildings.	VIII. Demarcation, improvement, &c., &c.	IX. Miscellaneous.	Total.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs.	Rs.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs.
North-Western Provinces.	2,67,795 8 5	20,088 0 2	295 8 4	...	10,383	11,314 10 8	36,086 10 8	27,068 9 5	2,211 7 9	3,75,243
Oudh ...	86,844 11 11	3,475 5 0	10 0 0	...	...	10,452 9 9	22,872 1 11	9,092 0 1	1,823 5 5	1,34,570
Total ...	3,54,640 0 0	23,563 0 0	305 0 0	...	10,383	21,767 0 0	58,959 0 0	36,161 0 0	4,035 0 0	5,09,813

B.

	I. Salaries.	II. Travelling allowances.	III. Contingencies.	Total.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs.
North-Western Provinces ...	1,21,600 0 0	18,036 0 0	7,414 0 0	1,47,050
Oudh	57,892 6 4	9,774 2 1	3,710 2 4	71,377
Total ...	1,79,493 0 0	27,810 0 0	11,124 0 0	2,18,427

26. The surplus shown in the table given in para. 22 of this review is based on the accounts of the year, but the following summary shows the actual profits of the year in the North-Western Provinces:—

	Rs.
Receipts	8,00,156
Expenditure	5,22,294
Surplus ...	2,77,862
Deduct difference in value of timber ...	26,472
Balance ...	2,51,390
Add increase of value of stock ...	12,361
Balance ...	2,63,751
Deduct realizations on account of previous years	11,273
Amounts due on the year's transactions not yet paid,	6,253
Outstandings at the commencement of the year ...	1,15,335
Balance ...	1,30,890
Add outstandings of the year minus bad debts (Rs. 1,582),	57,493
Amounts disbursed on account of previous years ...	7,462
Actual profits of the year	1,95,845

Being almost one lakh lower than the net profits of 1876-77.

And for Oudh—

			Rs.
Receipts			4,02,951
Expenditure	Conservancy	Rs. 1,34,570	... 2,05,946
	Establishment	,, 71,376	
Surplus ...			1,97,005
To which after, adding the difference in value of stock, contractors' outstandings and liabilities, and outstandings and liabilities for timber sale, we have assets			82,298
Showing net results of the year			2,79,303

27. Rs. 14,406 were due to the department by contractors at the close of the year in the North-Western Provinces, and the amount of outstandings on account of disbursers was Rs. 39,766 ; the sum due to contractors from the department was only Rs. 253, while there were no liabilities on account of disbursers. In Oudh Rs. 17,041 were due from, and Rs. 664 to contractors, while the outstandings and liabilities on account of disbursers were Rs. 21,540 and 8 annas respectively.

28. Rs. 4,902 were outstanding on account of revenue in the North-Western Provinces, and in Oudh no less than Rs. 84,974, principally owing to the large items of Rs. 35,202, and Rs. 31,010 under 'grazing dues' in the Bahraich and Gonda divisions. These have long been under consideration and report, and it is hoped that a final solution of the difficulty may shortly be arrived at.

29. Rs. 9,100-15-10 are shown in appendix XIII. of the Oudh report as due to the Bahramghat depôt on account of timber sales, but by appendix XII. the nominal amount would seem to be Rs. 9,150-15-10 ; whichever be the sum, it must apparently be reduced by Rs. 2,476-7-2, disputed on

grounds which the Conservator seems to admit. Appendix XII. also shows that the department was liable for Rs. 9,144, paid into the Bahramghát depôt in advance for timber which had not been supplied at the close of the year.

30. The Civil authorities having brought to notice the great difficulty experienced at Naini Tal in obtaining charcoal and lime at a reasonable cost (*vide* paras 33 and 46 of Mr. Greig's report), the subject was commended to the careful consideration of the Conservator, and the Lieutenant-Governor has recently heard with satisfaction that arrangements have been made in communication with the Commissioner which appear the best possible under the circumstances.

31. Explanations which appear to be called for by the orders of the Government of India, or of this Government, on the progress report of a previous year should not ordinarily be given in the Conservator's annual report, but should be submitted in a separate communication ; where, however, it is necessary to refer to such orders, it will be better to do so in those sections of the report which deal with the subject under notice, rather than to discuss them under section IV., 'General Remarks.'

32. The requirements of the Deputy Commissioner of Jhánsi and Lalitpur for additional office establishments for the conduct of forest business (para. 47 of Mr. Greig's report) have been recently met by reductions in the establishment of the Bhágirathi division.

33. In para. 4 of his report Captain Wood refers to the need for proper establishment for the Bareilly forest, and in para. 6 he speaks of the establishments in the Gorakhpur division being excessive. Proposals should be submitted for the reduction of the latter, if this can be effected with due regard to efficiency and financial results ; and by this means it may be possible, at least in part, to meet the requirements of Bareilly.

34. On the representations of the Conservator that the arrangements of forest divisions described in the 9th para. of his report would be most convenient, especially with reference to the supply of markets, Captain Wood was informed that his proposals were deemed by this Government to be generally suitable ; but the Lieutenant-Governor has since determined that it will be advisable before giving them effect to consider whether it is not possible to arrange that the boundaries of forest charges shall be more generally conterminous with those of civil districts and divisions.

35. On the whole, though the year was decidedly unfavourable to forest administration, much good work has been done, and the progress made may be considered satisfactory. The Lieutenant-Governor is gratified to observe that with very few exceptions the officers of the department are reported to have worked zealously and well. The thanks of Government are due to Mr. Greig himself for his unwearying devotion to his labours, and the tact and ability with which they are conducted, and Sir George Couper takes this opportunity of recording

his sense of the valuable services rendered by him during the whole of his career as a forest officer. Captain Wood, too, conducts his forest duties with zeal and efficiency.

36. In future reports a clear and concise comparative summary of the results for the whole circle as well as for each division should be given. The summary should be divided into each of the heads prescribed by the Forest Code for the sections of the report referring to each division or forest range. Now that there are three circles under this Government, this is necessary in order to enable a comprehensive view of the forest administration as a whole to be readily formed. The abstracts given above may serve as a guide, but such explanations of the differences brought out as appear called for, or may serve to make the figures more intelligible, should be added. The appendices, which, as directed by the Government of India in para. 19 of the letter from the Department of Revenue, Agriculture, and Commerce, No. 26F., dated 11th January, 1878, should be designated by the serial numbers prescribed in the Forest Code, should be brought into exact conformity with those given in the Forest Code, except where, in the case of 'suggested' forms, any modifications have been authorized or, in respect of 'optional' forms, the information which they are designed to furnish is supplied in the body of the report. As much uniformity as possible in the forms and method of compiling the statements for the various circles is essential. The instructions contained in the Resolution of the Government of India, Department of Revenue, Agriculture, and Commerce, No. 10F., dated 23rd January, 1878, for the omission of fractions of cubic feet in all cases and of annas and pies in all but certain specified statements should be given effect to, except in respect of the entries in the columns of forms Nos. 57 and 58, denoting average-prices and contents, regarding which the wishes of the Government of India will be ascertained. In form No. 45 the Conservator, North-Western Provinces, should have shown the civil district or territory within which each forest is situated, and the total areas of the forests should be shown in the columns headed 'acres,' not merely the number of acres in excess of the square miles entered in the preceding columns.

37. In conclusion, Sir George Couper wishes to record his strong conviction that the working of the department would be much improved if it were placed entirely under the Local Government, and the present system of dual administration put an end to. In connection with this point Sir J. Strachey's speech at the passing of the Forest Act deserves attentive consideration, and His Honor regrets that no steps have as yet been taken to carry out the policy advocated therein, the soundness of which is every day forcibly demonstrated by actual experience.

In the North-Western Provinces and Oudh, the Forest Department is still in a great measure a thing apart from the regular administration. The Lieutenant-Governor feels that the relations which at present exist between them are far from satisfactory, and that there is no reason why forest administration should not be confided to the Local Government in the same way as that of other departments. Much unnecessary correspondence would thereby be saved, and the same increase of efficiency

might be looked for as has been found to result in all branches where a similar course has been adopted. Sir George Couper is unable to see any good grounds for treating the Forest Department exceptionally in this respect.

G. E. ERSKINE,

Secy. to Govt. N.-W. P. and Oudh, Rev. Dept.,
(Forest Branch).

No. 156.

ORDERED, that a copy of the foregoing with report be forwarded to the Conservators of Forests, Central, School, and Oudh Circles; also to the Commissioners of Meerut, Benares, Jhánsi, Rohilkhand, Kumaun, Sitapur, and Fyzabad, for information.

No. 157.

COPY also with reports forwarded to the Comptroller-General, Calcutta, for information.

No. 158.

EXTRACT para. 7, with extract para. 32 (13) of Conservator's report, forwarded to Superintendent, Roorkee workshops, for attention.

G. E. ERSKINE,

Secy. to Govt., N.-W. P. and Oudh, Rev. Dept.,
(Forest Branch).

N.-W. PROVINCES.

ANNUAL PROGRESS REPORT
OF
FOREST ADMINISTRATION
FOR THE YEAR 1877-78.

By George Greig, Esq., Conservator of Forests.

I.—SUMMARY OF ADMINISTRATION DURING THE YEAR.

1. I visited the following divisions during the year under report :—Naini Tál, Bánikhet, Kumaun, Garhwál, Dehra Dún, Jaunsár, Bhágirathi, and Bijnor—all in fact except Jhánsi and Lalitpur. Under orders of the Local Government I also inspected the forests of the Bánda district and wrote a report thereon.

2. **Naini Tal Division.**—Mr. Braidwood, Assistant Conservator, was in charge throughout the year.

3. **Ranikhet Division.**—Mr. Craw, Superintendent of Nurseries, was in temporary charge up to the 27th April, 1877, when he was relieved by Mr. E. P. Dansey, Assistant Conservator, who held charge up to the 17th July, 1878. Mr. Brereton, Deputy Conservator, then took charge, and remained in charge the remainder of the year.

4. **Kumaun Division.**—Captain Campbell, Deputy Conservator, was in charge throughout the year.

5. **Garhwal Division.**—Mr. Colvin held charge up to the 21st May, and Mr. Grant was in charge from the 14th June: during the interval the current duties of the division were carried on by the Conservator. Mr. Dansey was employed in this division during the winter making an enumeration valuation of the Mondhál valley sál forest.

6. **Dehra Dún Division.**—Mr. O'Callaghan, Deputy Conservator, was in charge the whole year, with Mr. O. Greig, Assistant Conservator, in subordinate charge of the Sewalik working circle.

7. **Bhágirathi Division.**—Mr. Amery, Deputy Conservator, was in charge up to the 29th September, 1877, when, on his transfer to the Panjáb, he handed over charge to Mr. O'Callaghan. It was then made a subdivision of the Dehra Dún Division.

8. **Jaunsar Division.**—Mr. Bagshawe, Deputy Conservator, was in charge throughout the year, with Mr. Rind, Assistant Conservator, in subordinate charge of the Tonse sleeper works. Mr. Dansey, Assistant Conservator, was also employed in this division during the summer and autumn of 1877, laying out fire paths and collecting data for the working plan of the Deoban working circle.

II.—RESERVED FORESTS.

II.—1.—AREA, BOUNDARIES GAZETTING OF FORESTS, SURVEYS, WORKING PLANS, &c.

9. **Naini Tal Division.**—The outer boundaries of the forests have been completely demarcated, and the Assistant Commissioner states that the boundary of the Naini Tál settlement, which is the inner boundary of the forests, has also been demarcated, and he promises a list of the pillars. All village lands within the forests have

also been demarcated and surveyed into the map which is being made by the Forest Survey Department, and is now nearly completed. Forty masonry pillars were erected round the outer boundaries at a cost of Rs. 120, and 1,672 smaller masonry pillars round the numerous patches of village lands at a cost of Rs. 1,672. This is a good step towards the preparation of the "register of reserves." Small strips of forest have been included in many of the "chaks" round the patches of village lands, but villagers are not allowed to fell any trees without permission; and cultivation cannot be extended beyond the demarcated limits of these lands.

The plot of land (282 acres) transferred to the Naini Tál Cantonments during the year, mentioned in para. 13 of last year's report, has also been demarcated by masonry pillars.

Mr. Grant valued the Hinnan chír forest, area 1,318½ acres, by counting all chír (*Pinus longifolia*) trees two feet in circumference and upwards, under the following classes :—

1st class = 6 1 girth and upwards.
2nd „ = between 4′ „ 6′
3rd „ = „ 2′ „ 4′

The following statement shows the results :—

Girth of 1st class trees.	Number of trees of all classes.			Number of trees of all classes to the acre.			Remarks.
	1st class.	2nd class.	3rd class.	1st class.	2nd class.	3rd class.	
6′ ...	1,239	...	...	...	...	...	The first was divided into nine compartments, covering a total area of 1,318 acres.
7′ ...	347	...	...	...	...	...	
8′ ...	68	...	...	...	...	...	
9′ ...	20	...	...	...	...	...	
Total ...	1,674	8,574	21,925	1·27	6·50	16·63	

Total number of trees counted = 32,173; average girth for 1st class, 6·32 feet. The compartments varied considerably, as will be seen by the following statement :—

	Area in acres.	Number of trees of all classes.			Number of trees of all classes to the acre.		
		1st class.	2nd class.	3rd class.	1st class.	2nd class.	3rd class.
Best compartment, No. 5	90½	214	1,151	2,637	2·37	12 71	29·14
Worst ditto, „ 1	80	33	386	861	41	4·75	10 76

The Hinnan forest is composed almost entirely of chír, with a little oak near the top of the hill on the northern slope, and few oak and alder trees in the ravines. The southern slope of the hill is steep and dry; the three compartments (Nos. 1, 2, 3) on the south slope, area 234 acres, contain an average of only 51 1st class trees per acre. The statement called for in para. 2 of the Government of India letter No. 26F., dated the 11th January, 1878, will be submitted with the annual report for 1878-79.

10. **Ranikhet Division.**—A portion (area seven square miles) of these forests was gazetted as a "closed reserve" during the year.

The Deputy Conservator reports that the data for the "register of reserves" of the closed forest is all ready to be entered into the book as soon as he receives the areas of the blocks from the Forest Survey Office.

He also says that data is being collected for the preliminary working plan of this forest, and that he is prepared to continue the valuation at the close of the rainy season. The survey of the Ránikhet forests by the Forest Survey Department is to be commenced next autumn.

11. **Kumaun Division.**—In form No. 45 it will be observed that the area of these forests has this year been shown as 672 square miles instead of 674; the difference is caused by the fractions of miles having been omitted.

The whole of the northern boundary has been demarcated by pucka pillars, and also the other boundaries of blocks Nos. I., II., III., and IV., where demarcation was required; some demarcation remains to be done in the other blocks, but all demarcation is completed in the portions of forests which are being surveyed by the Forest Survey Department.

During the year the forests of this division were gazetted as Government reserved forests under Act VII. of 1865 (*vide North-Western Provinces and Oudh Gazette*, dated 15th September, 1877).

12. **Garhwal Division.**—The boundaries have been demarcated; but the divisional officer reports that in some cases the pillars are too far apart, and that he intends to erect intermediate pillars next winter.

The Forest Survey Department is working in the eastern portion of this division. Mr. Dansey valued about five square miles of the Mondhál forest, by counting all sál and sein trees of 18″ in circumference and upwards, under the following classes:—

1st class = 6′ girth and upwards.
2nd „ = between 4′6″ „ 6′.
3rd „ = „ 3′ „ 4′6.″
4th „ = „ 1′6″ „ 3.′

The following statement shows the results:—

Length of timber.	Number of trees of all classes.										Number of trees of all classes to the acre.										Average length of timber in 1st class trees.		Percentage of unsound trees.	
	1st class.				2nd class.		3rd class.		4th class.		1st class.		2nd class.		3rd class.		4th class.		Total.					
	Sál sound.	Sál unsound.	Sein sound.	Sein unsound.	Sál.	Sein.	Sál.	Sein.	Sál.	Sein.	Sál.	Sein.	Sál.	Sein.	Sál.	Sein.	Sál.	Sein.	Sál.	Sein.	Sál.	Sein.	Sál.	Sein.
10′ ...	571	...	228	...	...	...	...	...	...	...											...	...	...	...
15′ ...	851	...	184	...	...	...	...	...	...	...	About 24	About 4	About 5	About 1	About 9½	About 1½	About 14	About 1½	About 31	About 4	...	...	..	...
20′ ...	1,667	...	460	...	...	...	...	...	...	...											...	...	...	...
25′ ...	1,428	..	304	...	...	...	...	...	...	...											...	...	...	...
30′ ...	1,222	...	354	...	...	...	...	...	...	...											...	...	...	...
35′ ...	528	...	141	...	...	...	...	...	...	...											...	...	...	...
40′ ...	317	...	73	...	...	...	...	...	...	...											...	...	...	...
45′ ...	90	...	24	...	...	...	...	...	...	...											...	...	...	...
50′ ...	50	...	14	...	...	...	...	...	...	...											...	...	...	...
Total ...	6,724	2,031	1,782	127	15,804	3,019	31,527	4,382	45,287	4,905	..	...	..	..	...	...	...	...	31	4	24′	23′7″	23	6

Total No. of trees counted = 115,588.
„ area valued = about 5 square miles.

Average girth for 1st class sál = 7′
„ „ „ „ sein = 7′

This work will be continued next winter, and on a more extensive scale.

Nothing worthy of report has been done in either the Kumaun or Garhwál Divisions towards preparing the register of reserves, for the re-gazetting of the forests under the new Indian Forest Act will necessitate alterations of the boundaries of all the blocks except Nos. I. and VII. of Kumaun and No. IV. of Garhwál. The Commissioner states that those blocks may be re-gazetted as "reserved," but that all the

others must be subdivided into "reserved" and "protected." The Deputy Conservator of Garhwál has not been able to prepare the statement called for in para. 2 of the Government of India letter No. 26F., but he hopes to be in a position to submit it with his next annual report.

13. **Dehra Dun Division.**—The boundary lines mentioned in para. 18 of last year's report were widened to 60 feet and the temporary marks were replaced by pucka pillars. The divisional officer reports that "the register of reserves book is being gradually completed, but the entries of rights have yet to be made."

Statement showing approximately the area stocked with sál and other classes of forest.

Forest division.	Classes of forest.					Total area of forests.
	Sál.	Sísham.	Khair.	Tun.	Mixed forests of inferior kinds of trees.	
Dehra Dún	234	7	14	...	309	Square miles 564

14. **Jaunsar Division.**—Considerable alteration will be observed in the names and areas of the forests of this division as shown in form 45 of this year's report, if, compared with the statement given at pages 40 and 41 of the annual report for 1876-77. Regarding these alterations the Deputy Conservator writes as follows :—

"The change in names and areas requires some explanation.

"Before the settlement of forest boundaries in the pargana, the whole area of forest land was parcelled out among the village communities (or khats). When the demarcation was carried out certain portions of most of the khats' old area was reserved as Government forest for the time being; for facility of reference such portions were called by the name of the khat they formerly formed part of. It is obvious, however, that they did not necessarily form convenient forest blocks or reserves, and gradually the whole area got re-divided into forests of convenient area, with good natural boundaries, and in many cases with local names different to the khat names. Advantage was taken last year of the new map to record this new subdivision of the forest area and to complete the subdivision ; this is now shown in the return, and, in future, alterations will be rare.

"7. The areas given in return 1 are still only approximate, as the Superintendents of the Forest Survey and the Great Trignometrical Survey have not yet been able to give accurate areas. In part the figures now given have been supplied by the Superintendent of Forest Surveys; the remainder have been worked out from a tracing of the forest area taken off the new map which was received from Mr. Ryall, Assistant Superintendent in charge of the Great Trignometrical Survey."

The following progress has been made in collecting data for preliminary working plans :—

Deoban range.—All the compartments of the Mohna block have been demarcated and the boundaries surveyed, and the detailed description of each compartment has been written : an enumeration valuation of 28 of these compartments has also been completed.

Bewar range.—The forests at the heads of the Dharagadh and Riknargadh, comprising an area of about 5,783 acres, have been examined, a description of them written, and notes made of the works of improvement required.

Most of the above works have been conducted by Mr. Dansey.

Deotá range.—The Parthil and Temple blocks have been divided into compartments and the detailed description written ; an enumeration valuation of two of these compartments has also been completed.

In para. 10 of last year's report a description was given of a proposal to define the rights of villagers to timber more clearly than was done at the last settlement, by endeavouring to induce them to consent to accept "a given number of deodar trees per annum in place of a sufficiency;" nearly all the headmen of the district have now assented to this, and the proposal will shortly be submitted for the approval of Government, with a view to its embodiment in the settlement records.

The register of reserves is delayed for want of the new maps; these maps will probably be published during the current year.

Statement showing approximately the area stocked with sál, deodar, and other classes of forest.

Forest division.	Classes of plains' forest.					Total area of plains' forests.	Classes of hill forests.				Total area of hill forests.	Grand total area.
	Sál.	Sisham.	Khair.	Tun.	Mixed forests of inferior kinds of trees.		Deodar.	Chír.	Firs.	Mixed forests of deciduous trees.		
Jaunsár ..	3	...	...	...	...	3	40	51	48	49	188	Sq. miles. 191

II.—2.—PROTECTION AND IMPROVEMENT.

15. **Naini Tal Division.**—A European Forest Ranger on Rs. 80 per mensem was, with the sanction of the local Government, entertained on the temporary establishment from the 1st October, 1877; he has been employed in supervising the building of pillars, charcoal and fuel work, marking trees, &c.

Fifty-one jhampannis and others were fined Rs. 41-7-3 for various minor offences. The Assistant Conservator was invested with the powers of a Magistrate of the 2nd class in July, 1877; he tried a case of theft of charcoal in which four persons were involved, one of whom was convicted and sentenced to one month's imprisonment. A charcoal contractor was fined Rs. 47-6-6 for wilful damage to the forests; a sawing contractor was fined Rs. 100 for setting fire to the forests in two places and for allowing fires at sawing places after being warned to the contrary; and three men were fined Rs. 5 each for setting fire to the forest near Salampakha. Watchers were entertained from the middle of March, and fire traces cleared where necessary. With the following exceptions, the whole of the forests of this division have been preserved from fire up to time of writing; but a further report (see para. 48) will be submitted for all divisions at the commencement of the rains.

Some grassy slopes on the Salampakha hill were burnt by grass-cutters, but the fire did not reach the wooded portions.

In clearing the fire trace on the south side of the Hinnan forest a small portion of the hill side was burnt, but little damage was done. One of the head guards burnt about 80 acres of indifferent forest between Sabjia and Churani when clearing the fire trace, and about 10 acres on the ridge above Sabjia were burnt by sawyers; but here also there was but very little damage done, for the forest is poor and heavily grazed over.

The following is a brief account of the planting work during the year :—

6,200 deodars and 200 oaks (*Quercus incana*) were brought from the Ránikhet nursery and planted.

260 dalla (*Cedrela serrata*) self-sown seedlings were transplanted into blanks.

5,420 beds 2′ × 2′ were planted with self-sown seedlings of tilonj (*Quercus dilatata*), two seedlings in each bed and two acorns; most of these beds were in old potato fields in exposed situations, and many of the little trees were uprooted by frost.

6,920 beds 2′ × 2′ were sown with *Quercus dealbata* acorns, six in each bed. 4,400 horse-chestnuts were sown in the forest and a few thousands in a small nursery.

10,026 beds 2′ × 2′ were sown with *Quercus incana* acorns.

A few acorns of *Quercus lanuginosa* were sown in a nursery.

2,512 beds 2′ × 1′ were sown with acorns of *Quercus semecarpifolia*, but none of the seed germinated; later on these beds were re-sown with cypress.

In July and August 5,564 beds 2′ × 1′ were sown with cypress (*Cupressus torulosa*) seed; only 50 seedlings came up and they all died.

In December these beds and about 2,000 more were re-sown with cypress seed, but up to date not a single seedling has appeared.

The past year was certainly very unfavourable for planting and sowing, but it is a puzzle to me why *some* of the cypress and *Quercus semecarpifolia* seed have not germinated.

Pinus excelsa will be sown in these beds next autumn if seed is procurable. The plantations mentioned in last year's report are doing well.

The roads and paths were kept in repair; a 3 feet path 65 chains in length, was made at a cost of Rs. 32-8-0; and a road 5 feet broad and two miles long was made for Rs. 157-10-0.

16. **Ranikhet Division.**—There were 49 cases of breaches of forest rules during the year, of which one was tried by the Cantonment Magistrate and the remainder were disposed of by the Deputy Conservator.

The fencing of the closed reserve was completed.

To effect through communication between Jakhdeo and Dalmoti, a new bridle road, 78 chains in length, was made from Jakhdeo down to the Kaligadh stream; all existing roads and paths were kept in repair.

With reference to the correspondence ending with No. 152F.-C., Government, North-Western Provinces and Oudh, Public Works Department, to Conservator, the Commissioner allowed the Deputy Conservator to fence off two plots of about 320 acres each—one in the forest of Kathalekh, the other in Ganyadeoli. Both of the these plots were protected from fire.

The Ránikhet closed reserve was again successfully protected from fire, with the exception of about one acre near the Kaligadh road, which is supposed to have been burnt by a traveller.

The small plot of 250 acres called Khaniari, which was mentioned in para. 23 of last year's report, and about which so much correspondence has taken place, still remains under charge of the Military Department, and is a constant source of dread to the Deputy Conservator lest some of the grass-cutters passing to and fro through the closed reserve should set fire to the forest.

The nursery and plantation work is fully described in Mr. Craw's report, which here follows:—

"*2nd.*—The seeds sown are as under, *viz*:—

Name.	lbs.	Number.	Source and remarks.
Yunan chestnuts	5	...	Dr King, Botanical Gardens, Calcutta; failed.
Horse ditto	128	...	Local; germinated well
Pinus gerardiana	2	...	Dr. Brandis; germinating well.
Walnut	...	72	Conservator, North-Western Provinces; failed.
Ditto	...	24,000	Local; germinated well.
Cypress	8	...	Forest Department, Naini Tal; failed.
Acacia	40	...	Australia; germinating.
Eucalyptus	4	...	Ditto; ditto.
Wild pear	13	...	Local; germinated well, but partly destroyed by hail.
Peach	114	...	Local; seed bad, a few plants only.
Oak	64	...	Do.; part only germinated.

"*3rd.*—No Spanish chestnut seeds have been received from the India Office, London, this year. The following results have been obtained from the consignments of chestnut seeds received from the India Office, London, 26th January, 1877, and the 5th March, 1877:—

"(1)—Three small bags containing altogether 518 seeds, sown the 3rd February, 1877, produced 80 plants.

"(2)—Case No. 1, containing 2,525 seeds, sown the 6th March, 1877, produced 356 plants.

"Case No. 2, containing 2,560 seeds, sown the 6th March, 1877, produced 537 plants.

"Case No. 3, containing 2,221 seeds, sown the 6th March, 1877, produced 276 plants; or, in other words, 7,825 seeds produced 1,249 plants. These results are not so satisfactory as that obtained from the consignment received the 24th February, 1876, which gave 1,867 plants from 5,346 seeds. I observe His Excellency the Governor-General in Council has requested the Secretary of State for India to send out in future an annual supply of two cases of 500 chestnut seeds each. Many years must necessarily elapse before the oldest chestnut trees in the nursery will produce seeds. I have therefore in the meantime put out a number of strong plants with a view to increase them by layers and suckers, and so supplement the number which may be raised from the seed received from London.

"*4th.*—The *Pinus gerardiana* from Dr. Brandis is germinating remarkably well, but unfortunately a number of the first young tender seedlings, just as they appeared above ground, were destroyed by hail. There are still many seeds to come through, and when these are all above ground I will report to you the result.

"*5th.*—Four lbs. only of gum seed was sown in the nursery. It is germinating freely; but, as in the case of *Pinus gerardiana*, a number of the young seedlings have been destroyed by hail.

"*6th.*—The 28 surviving plants of *Eucalyptus marginata* referred to in my report for 1876-77, para. 6, have been killed by frost. This variety evidently is not robust enough to withstand the occasionally severe winters we experience at Ránikhet.

"*7th.*—The acacia seed obtained from Australia was mixed with dry sand and sown the end of March, very thinly in drills 4 feet apart over 30 acres 18 poles of old cultivation at Dalmoti. The seed being in good condition, I expect there will come up a sufficient number of plants to evenly cover the ground, but should any blank spaces occur it will be easy to fill them by carefully moving during the rains a few plants from other lines that may prove too thick.

"*8th.*—The numbers and kinds of plants put out in the forests during the year are as under, *viz.*:—

	Gums.	Acacia.	Deodar	Oak.	Pinus excelsa	Walnut.	Horse chestnut.	Alder.	Total.
At Jakhdeo ...	24,685	908	...	...	..	...	...	...	25,593
" Jainole ...	...	...	35,455	23,408	1,098	...	...	...	59,961
" Dalmoti ...	4,786	300	...	...	...	...	...	740	5,826
" Ghingarikhál...	...	...	...	...	...	400	592	...	992
Total ...	29,471	1,208	35,455	23,408	1,098	400	592	740	92,237

"*9th.*—The year has been most unfavourable for planting operatins, very little rain for a few days, at a time, succeeded by long stretches of hot sunny days; and though the work was then stopped and resumed when rain fell, and the plants carefully shaded by branches, I regret to say, notwithstanding these precautions, a great many died. The oak appears to be all dead, but some are alive at the roots, and many more with these will probably spring up from the roots during the rains. The gums and deodar suffered too, but not to the extent the oak did. All the vacancies in the deodar were filled in during the cold weather, and with very few exceptions the plants have taken well. Some of the vacancies in the gums at Jakhdeo were also filled in, and the remainder I purpose making good by sowing acacia seed out at stake next spring. My intention was to have sown them this year if any seed remained over from Dalmoti, but it was all required there.

"*10th.*—The following is a list of forest and fruit trees distributed during the year :—

(*1st*)—*Forest trees.*

	Gum.	Acacia.	Deodar.	Walnut.	Horse chestnut.	Willow.	Miscellaneous.	Total.
To Forest Department, Kumaun Division.	4,000	200	...	...	...	...	...	4,200
To Forest Department, Naini Tal Division.	...	...	6,200	...	...	...	200*	6,400
To Ránikhet Cantonments ...	...	100	1,700	2,350	1,950	250	...	6,350
To Officer Commanding 14th Regiment.	...	81	1,849	605	1,000	850	450	4,835
For new hospital grounds ...	...	...	15	...	10	240	...	265
Householders	170	119	1,968	277	241	621	389	3,785
Total ...	4,170	500	11,732	3,232	3,201	1,961	1,039	25,835

* Oak.

(*2nd*)—*Fruit trees.*

	Apples.	Pears.	Apricot.	Plum.	Cherry.	Spanish chestnut.	Miscellaneous.	Total.
Officer Commanding 14th Regiment.	...	100	...	...	220	250	...	570
Cantonment Magistrate ...	...	...	...	...	200	...	...	200
Almora Jail Garden ...	...	30	...	...	30	30	...	90
Garhwál Pauri Garden ...	...	24	...	18	...	...	...	42
Colonel Johnston, Political Agent, Manipur.	8	8	7	6	5	6	10	50
Villagers and householders ...	317	1,602	209	231	934	870	86	4,249
Total ...	325	1,764	216	255	1,389	1,156	96	5,201

Colonel Johnston informed me that the trees had reached Manipur safely.

"*11th.*—The revenue from sale of fruit trees and fruit is as under :—

(*1st*)—*Fruit trees.*

						Rs.	a.	p.
Pear,	six	at	Rs.	1-8	...	9	0	0
Cherry,	six	„	„	1-8	...	9	0	0
Apricot,	four	„	„	1	...	4	0	0
Plum,	three	„	„	1	...	3	0	0
Spanish chestnut,	two	„	„	1-8	...	3	0	0
						28	0	0
(*2nd*) *Forest* ...				...	...	144	1	0
				Total	...	172	1	0

"12*th*.—I am sorry to inform you there will be very little fruit this year, the hailstorms, which have been unusually heavy and frequent, having destroyed it all nearly, and the little there is left is so pitted by the hail as to be of little value when ripe.

"13*th*.—The additions made to the orchard comprise 316 apple trees and 190 Spanish chestnut trees.

"14*th*—The stock of forest and fruit trees in the nursery consists of—

(1*st*)—*Forest trees.*

Deodar	...	...	160,130
Walnut	...	...	79,500
Horse chestnut	...	...	10,500
Oak	...	...	9,722
Ash	...	...	5,040
Willow	...	...	6,978
Miscellaneous	...	...	7,382
	Total	...	279,252

(2*nd*.)—*Fruit trees.*

Apple, grafted	...	...	956	
„ stock	...	...	1,851	
Pear, grafted	...	...	4,531	
„ stock	...	...	5,590	
Appricot, budded	...	...	490	
„ stock	...	...	6,607	
Plum, budded	...	...	386	
„ stock	...	...	5,910	
Cherry, budded	...	...	869	
„ stock	...	...	2,591	
Peach, budded	...	...	161	
„ stock	...	...	80	
Loquat, enarched	...	...	49	
„ stock	...	...	550	
Mulberry cuttings	...	...	433	
Current „	...	...	502	
Fig stock	...	...	35	
Spanish chestnut	...	...	1,936	
				30,720
	Fruit trees	...		33,527
	Forest „	...		279,252
	Total	...		312,779

"15*th*.—I may here mention that, in accordance with instructions received from Mr. Buck, Director of Agriculture and Commerce, North-Western Provinces and Oudh, I prepared a piece of ground about four acres in extent at the bottom of the nursery for experimental tobacco cultivation. The expense incurred in this work is borne by Mr. Buck."

Mr. Craw's system of propagating the Spanish chestnut is worthy of the attention of the Government of India for adoption in other Provinces.

In para. 9 of his report Mr. Craw mentions the failure of a great many transplanted oaks (*Quercus incana*); the past year was certainly an exceptionally unfavourable one for planting, but in future we will not attempt to plant out oaks during the rains; winter planting is better suited to them.

17. **Kumaun Division.**—There were 157 cases of breaches of forest rules during the year, involving 266 persons; convictions were obtained in 141 cases, including 196 persons.

Captain Campbell's fire conservancy arrangements have again proved successful up to time of writing, with the following exceptions :—

(*a*) In the Chilkia forest (called Mohan in last report) there were ten fires, which spread over 2¾ square miles.

(*b*) In the Garibolchand forest there was one fire, which spread over 218 acres.

(*c*) In the west Kotah block (called Kotah in last report) there were eight fires, which spread over 382 acres.

(*d*) In the Hurai forest there were two fires, which spread over about 167 acres.

Total 3 squares miles 607 acres burnt out of 140 square miles 462 acres attempted to be protected.

All these fires originated in burning the lines, except two in the west Kotah block and one in Hurai, which are supposed to have been lighted by villagers or herdsmen.

Captain Campbell thinks that it would be advisable to have fewer fire lines in future; in some cases it may be advisable to abandon a dangerous line, but as the present system has answered so well hitherto, I do not quite agree with him.

In the Chilkia forest four square miles were added to the fire-conserved portion, and three square miles were added to the west Kotah block. Attention has chiefly been directed to clearing the numerous fire lines and completing the fences round the Garibolchand, Hurai, and Sudimat forests.

Captain Campbell has introduced a plan for planting blanks in the forests which promises to answer well; he allows these blanks to be cultivated for a kharíf crop on condition that the cultivator ploughs them, shows them with tree seed, fences them, and cuts the long grass at the proper seasons during the following winter, the Forest Department merely supplying the seed and the fencing materials.

At Khairali, a deserted village on the Kosi river, six acres were sown with khair (*Acacia catechu*) seed on this plan last winter, and the seed germinated well.

In the west Kotah block there is a grassy plain which was cleared for cultivation many years ago, of from two to three square miles in extent, in the middle of a sál forest; last summer a small plot 100 yards square was fenced and sown with 14 kinds of seeds of useful trees as an experiment before showing extensively. The season was unfavourable on account of the scarcity of rain, but the following kinds germinated freely :—Sisham, khair, sandan (*Eugenia dalbergioides*) abnus (*Diospyros melanoxylon*), tun, and amaltás (*Cassia fistula*). It is worthy of note that the amaltás seed, though sown last summer with the rest, did not germinate till the following spring, when it camp up freely. As a further experiment the grass was cleared from half of the plantation in December and was left standing in the remainder; in the cleared portion the seedlings of all kinds were cut down by frost almost immediately, but in the remainder the frost did no damage. Sál seed was not procurable last year, but some will be sown this year. In the Chandni forest, a portion of the Chilkia forest, an area of about 400 acres was cleared of creepers and all useless trees; the wood of these trees was not worth exporting, so it was left on the ground. Seventeen and a half miles of the fence round the Garibolchand forest and 6½ miles of the Sudimat fence were planted with prickly aloes, with a view of having a living fence to take the place of the posts and rails when they became rotten.

A cart road from Sangaria Soth to Durgadeh, 18 feet in breadth and 3 miles 30½ chains in length, was constructed, and 353 sál logs exported by it; a cart road was made from Mulani to Jamnagwar, length 5¾ miles, breadth 12 feet; all existing roads were kept in repair; a number of bridle-paths were made along fire lines. These

bridle-paths are of great use, not only for inspection purposes, but also for opening out the hitherto inaccessible parts of the forests for export of bamboos and dead wood, and for export of the large amount of timber cut on the fire-lines, and they will come in very useful hereafter when the forests are being worked. They are sufficiently wide for riding if the horse is accustomed to hills, and they are graded so as to be suitable for dragging timber or bamboos on buffaloes, which is a much cheaper carriage than by coolies.

18. **Garhwal Division.**—There were 62 prosecutions for breaches of forest rules, in which 99 persons were involved ; convictions were obtained in 47 cases, including 79 persons.

In the Dikála (Patli Dún) forest (16,036 acres) there were three fires during the year; two of these fires spread over 1,032 acres of grassy plain, but luckily they occurred in September and November, when the forest was green, and they did very little damage, as they only burnt up to the edge of the sál forest. The September fire was supposed to have been lighted by grass exporters ; the November one spread from the line burning : a strong breeze sprung up and blew it across the road. The origin of the third fire was not discovered ; it came across the ridge from the south and burnt about 1,000 acres of the forest, but fortunately the portion burnt was one of the worst bits of the Dikála forest. This fire occurred in April, 1878.

Two hundred and forty-five acres were added to the fire preserved portion of the Sisham Khata forest, making the area now attempted to be preserved 2,020 acres. When the lines were being burnt early in April, a breeze suddenly sprang up, carried the fire into the forest, and burnt 540 acres of the outer portion.

The Pápidánda khair (*Acacia catechu*) forest was surveyed by the Forest Survey Department and found to be 568 acres ; it was entered in form No. 47 of last report as 500. On the 2nd of October this forest was entirely burnt : a fire was lighted somewhere in the Bijnor district, and it spread over many square miles of jungle.

Such a thing as a jungle fire in the Bhábar in *September* has never before been heard of, even by the " oldest inhabitant". We never think of commencing fire-conservancy work till November, and in fact the foresters of the ranges were on leave when the September fire in Dikála, and the 2nd of October fire in Pápidánda occurred ; the grass looked quite green, but apparently there was no sap in it, for it burnt like straw.

The November fire in Dikála was a pure accident ; at that time of the year the grass is generally only partially dry and burns quite slowly and is easily controlled.

The two April fires in Dikála and Sisham Kháta are not so easily excusable ; there is a road along the ridge to the south of the Dikála forest, and the line ought to have been sufficiently well cleared by April to have stopped a fire entering from the south. I do not blame Mr. Grant for the fire in Sisham Kháta, for the division is large, and the officer cannot attend personally to be burning of every line ; but it certainly was great carelessness on the part of the natives.

The following additional areas were attempted to be protected from fire :—(*a*) the forests bounded on the north by the ridge which forms the southern boundary of the Dikála forest, on the south by the Jamnagwar road, on the east by the Barsoti to Laldang road, and on the west by the Baxar to Patehr Pani road. The area of this block is estimated at 20,938 acres, of which 4,924 acres were burnt. (*b*) The forests bounded on the north by the water-shed between the Rámganga and Mondhál rivers, south and east by the Rámganga, and west by the road from Toulia to the Mondhál valley. The area of this block is estimated at 8,841 acres. No new road was commenced, but all existing roads were kept in repair.

19. **Dehra Dun Division.**—Convictions were obtained in 10 out of the 16 prosecutions instituted for breaches of forest rules.

The Bulawala and Thanu forests were completely protected from fire ; and the Deputy Conservator writes : "there cannot be a doubt that these forests owe this immunity entirely almost to the restrictions under which the men of the 2nd Gurkhas have now to conduct their shooting ;" but, owing to the unusually dry season, such crowds of starving cattle from the Panjáb swarmed into the forests that it was found impossible to save Dholkand (3,200 acres), which is one of the few forests of the Sewalik working circle in which grass was plentiful last winter.

The Deputy Conservator reports that the small experimental sál plantation at Bulawala is thriving.

The Commanding Officer at Landour writes :—" 100 firs, 100 horse chestnuts, 50 deodars, 50 poplars, 50 walnuts, and 50 cypress trees have been purchased and planted out from 1st April, 1877, to 31st March, 1878, in plot A , at a cost to the cantonment fund of Rs. 100-4-0, most of which are thriving and doing well. I would beg to add that tree-planting could be carried out with advantage in the hills in plot B., if the cantonment fund could admit of the expenditure."

Improvement thinning was again carried out in two more compartments (=640 acres) of the Bulawala sál forest, the results of which are shown under yield and working.

The khám tahsíl system of collecting revenue for minor produce was established in this division during the past year, and the Deputy Conservator reports that it worked well for the collection of revenue, but indifferently for protection, and that a revision of the establishment will be necessary. In the Sewalik working circle the Kansrao forest hut was rebuilt and two of the export roads were repaired.

The protection hedge was ploughed and sown in all blank intervals, but in consequence of the unusually dry season none of the seed germinated, and some of the former sowings which had been growing well died of drought.

20. **Bhagirathi Division.**—*Leased Forests.*—Eight prosecutions for breaches of forest rules were instituted during the year and five convictions obtained. Regarding fire conservancy, the Deputy Conservator states that "though villagers throughout the Rája's territory are warned against firing any of the forests, which are all as far as practicable and in a general way protected from fire, no special expenditure for that purpose is incurred, nor are particular areas closed, and therefore no such statement as form 47 could be filled in truthfully."

The Deputy Conservator says nothing regarding the valley road, but I presume it was kept in repair ; the portion of it which I passed along in October last was in good order.

Under cover of this office No. 37, dated 22nd May, 1878, a set of proposed regulations and rules for the better management of the forest leased from the Raja of Garhwál was submitted for the approval of His Honor the Lieutenant-Governor.

21. **Jaunsar Division.**—Two of the names of ranges have been changed, on account of the new names being more descriptive and better known than those given in the last annual report. The Bodiar range is now called Lokandi, and the Banalgadh range is now called Karamba.

Up to the date of the Deputy Conservator's report fire conservancy had been successfully carried out in all the forest attempted to be protected, with the exception of one fire in the Deota range, which spread when the lines were being burnt in February ; this fire spread over a small patch of indifferent chír forest on rocky ground, but was stopped from entering the deodar forest by an inner line.

The leased forests of Dartmir, Banál and Shialna were protected from fire, and Dartmir from grazing also ; the approximate areas are included in the Jaunsár range and entered in form 47.

In the Kálsi range the area attempted to be protected from fire was increased, and arrangements were made for excluding grazing from the protected portions of the forest.

In the Deoban range more acorns were sown, but, owing to the drought, they did not germinate. Areas previously planted were hoed and cleaned, and are doing well.

In the Lokandi range arrangements were made to plant up 50 acres with deodar, but owing to want of rain only five acres were undertaken; 1¼ acres were planted with nursery-raised seedlings partly in June and partly in February, and only about twenty of them have died; 3¾ acres were sown in seed-patches partly in December and partly in March, about 20 seeds in each patch, and the seed germinated freely. The areas previously sown or planted are thriving. One compartment of the Bodiar forest was thinned with the object of encouraging deodar and oak, most of the firs being cut and converted into fuel for Chakráta.

The following instance of the patience and perseverance required in the management of deodar forests is worth recording :—

Within the Báwar range is the almost pure deodar forest of Koti, covering an area of about 89 acres, with a south and west aspect, and situated at an elevation of about 5,000 feet. Since 1870 this forest has been preserved from fire, and there has been no grazing allowed in it since 1871. In 1871, 777 1st class deodars were felled, about five times that number of 1st and 2nd class trees being left standing. The object of this felling was to remove sufficient mature trees (which were in a majority), to induce the seeding of the remainder, and thus obtain a due proportion of poles. During the autumn of 1871 deodar seed was sown on all blank spaces inside the forest, and also around the outside of the forest, but, with the exception of a few trees along the outside, this sowing was a complete failure : a little of the seed germinated, but the seedlings almost all died. Protection from fire and grazing produced a dense growth of grass in the forest; and in 1874-75 the Deputy Conservator, seeing there was no sign of reproduction, allowed the neighbouring villagers to cut the grass during the autumn and winter, and this has been permitted up to the past spring. There is generally *some* seed on deodars every year, but a *full crop* occurs only once in three or four years. In the Koti forest there was one full crop between 1871 and 1874 and another in 1877. Many times had we examined this forest in the hopes of finding seedlings, and were beginning to get quite puzzled about the utter absence of reproduction; but towards the end of April last, Mr. Bagshawe and I found the whole forest covered with little deodars from last autumn's seed, with every here and there a seedling of 1876, but none of over two years old except a few around the outskirts.

Of the Deogarh range the Deputy Conservator writes as follows :—The state of the "deodar forests in this range is most satisfactory, and there are few more enjoyable sights than the open slopes at Mandhol and Lambatách, formerly seas of grass or clearly nibbled or burnt hill-sides, now evenly covered with deodar and kail seedlings." Mr. Bagshawe and I walked over these forests in May last, and it certainly was most gratifying to observe the immense improvement our treatment of them has effected; and not only on grassy slopes, but *throughout the forests*, this improvement is plainly visible to any one who will examine them carefully. The only place in which I had any fear that our fellings had been too heavy was the Lohasso block of Lambatách; we examined this forest last May, and even there, there is a full crop of deodar seedlings.

Thinning out fir in the Lambatách forest, to promote the increase of deodar, is being continued; during the year this work was extended over about 558 acres.

Within the Deota range is the deodar forest, in which sleeper works are being conducted. It is too early yet to see the effect of the fellings as regards reproduction, but there is no doubt but that the trees have been most judiciously selected for felling by Mr. Rind. The extension of the canal slide, mentioned in para. 27 of last year's annual report, was almost completed when I was there in May last, and I hope to be able to report its completion before sending in this (see Appendix E.)

The following is a list of the roads and paths ma e during the year :—

Deoban range.

Range.	Forest.	Name of road.	Length in chains.	Breadth in feet.	Cost.
					Rs. a. p.
Deoban ...	Thona ...	Kanjatra, Sarsat, and Bendi dhár...	247½	4	500 0 0
Lokandi ...	Bodiar ...	Kinani and Thowa ...	169	2	107 0 0
Ditto ...	Ditto ...	Pirchi and Suri ...	205	2	130 0 0
Ditto ...	Ditto ...	Bangia Lani and Lans-ki-dhár ...	66½	2	24 15 0
Ditto ...	Ditto ...	Kinani to Sawai lani ...	125	2	78 2 0
Ditto ...	Ditto ...	Sawai lani to Suri khud ...	283	2	178 12 0
Ditto ...	Ditto ...	Duardanda and Siagi lani ...	66	3	198 0 0
Ditto ...	Ditto ...	Kandi lani	61	3	183 0 0
Báwar ...	Dharagadh ...	Koti dhár to Laknagadh ...	320	2	140 0 0
Ditto ...	Ditto ...	Bamnai lani to Mundála dhár ...	160	2	70 0 0
Ditto ...	Ditto ...	Kinani pani to Suri thát and Ganpan thát.	200	2	87 8 0
Ditto ...	Ditto ...	Kehrugadh to Manjhir dhár ...	120	2	52 8 0

In addition to the above, a series of paths have been lined out and are in course of construction in the Deogarh and Deota ranges.

The object of these paths is—to surround the forests protected from fire with a path along which the fire trace is burnt, thereby rendering the work safer and reducing the annual cost of burning ; to define the limits of forests close to grazing, thus simplifying relations with villagers ; to facilitate the export of forest produce, the supervision of work, and the inspection of forests.

II.—3.—YIELD AND WORKING.

22. **Naini Tal Division**—Yielded—

Pine trees for building timber	770
Alder ditto ditto	10
Oak ditto ditto	1
Inferior kinds for building timber	8
Oak for lime-burning	84
Inferior kinds for lime-burning	70
Oak and other trees for charcoal : ordinary size, 1,024 ; stunted, 528 ; dry, fallen, and injured, 439 ...	1,991
Total trees ...	2,934
Dead and fallen oak for charcoal outside the forest boundary,	303

Firewood from fallen trees and stumps :—

Supplied to the Commissariat Department, hard wood, maunds,	12,106
Ditto ditto ditto, fir wood, „	15,024
Supplied to the Brewery ... ... „	326

The above trees, &c., were supplied to the station of Naini Tal and charged for.

Used departmentally for burning lime, for building demarcation pillars, hard wood trees	251

The following is a list of the trees given free of charge to villagers :—

Mature fir trees	39
Small ditto for poles	415
Mature sál trees	11
Ditto oak	4
Ditto other kinds	15
Total trees ...	484

23. **Ranikhet Division.**—Yielded—

Species of tree.	To public departments.	To private persons.	Used by department.	Free to villagers.	Total.
Pine (over 5′ girth)	402	177	...	2,329	2,908
„ (under 3½′ „).... ...	38	103	1,229	21,987	23,357
Oak, &c.	...	...	...	1,421	1,421

The number of trees given to villagers has increased even beyond the enormous number supplied last year. In explanation of this the Deputy Conservator reports :—

" The order referred to in last year's report (para. 31) was not carried out during 1876-77, and the applications for timber for cattle-sheds were so numerous during the early rains as to be far beyond the capabilities of the establishment to mark the trees fast enough ; but in future it should be reduced to its normal number of 7,000 trees annually."

The Commissariat Department paid royalty on 1,07,395 maunds of firewood. Owing to the large stock of fuel in the commissariat yards, the system of weighments at the Forest Department chaukis (mentioned in para. 31 of last year's report) was not commenced until October, 1877. The figures show a considerable improvement on 1876-77, and we may expect a further improvement during 1878-79.

24. **Kumaun Bhabar Division.**—Yielded—

Trees felled, sál ...	chiefly in fire lines.	...	2,488	
Ditto, other kinds ...		...	1,125	
Brought to depôt, sál	...	...	19,627	cubic feet.
Ditto, other kinds	...	...	16,324	„
Removed by purchasers, sál	...	...	57,329	„
Ditto, other kinds	...	...	30,583	„

On account of the dearness of food, carts were not easily procurable, and therefore much less timber was brought to depôt than in ordinary years.

Four hundred and seventy-two sál logs were cut in the Jameria forest, and most of them have been carted as far as Mohan.

Cutting of khair trees for sugar-mill pestles was restricted to certain areas instead of being allowed all over the forests.

25. **Garhwal Bhabar Division.**—Yielded—

Trees felled, sein ...	...	...	...	200
Ditto, other kinds	...	...	...	15,896

The sein were for the Roorkee Workshops, and the " other kinds" were poles of inferior kinds of trees for the Ganges canal :—

Removed by purchasers, sál ...	...	29,390	cubic feet.
Ditto, other kinds...	...	127,529	„

Owing to the large stock in depôt, a considerable portion of which was sold during the year, no timber operations were undertaken.

26. **Dehra Dun Division.**—Yielded—

Trees felled, sál ...	...	...	11,192
Ditto, other kinds...	...	...	223
Removed by purchasers, sál	...	...	8,282 cubic feet.
Ditto, other kinds...		...	3,657 „

The "trees felled" represent the fellings of the improvement thinnings at Bulawala, mentioned in para. 19, and the following statement shows the results :—

	Rs.	a.	p.	
9,877 sál karis realized	9,860	0	0	
1,344 damaged ditto	252	0	0	
610 sál ballis ditto.	274	8	0	
22,082 tors and ballis in stock, valued at 252 ballas ditto ditto ...	10,050	0	0	(approximate).
Value of fellings	20,436	8	0	
Total expenditure	8,059	8	0	
Net profit ...	12,377	0	0	

None but crooked, stunted, hollow or over-crowding trees were felled; the best and straightest were left standing.

27. **Bhagirathi Division.**—Yielded—

Trees felled, deodar 2,775

The divisional officer has not reported how many of these were *green* trees and how many *dead.*

There were also 615 trees on hand from the previous year's fellings, making the total number of felled trees to be accounted for 3,390.

Two thousand two hundred and ninety-three trees were converted into 81,730 (6′ × 8″ × 4″) sleepers, and 2,440 more sleepers were sawn out of some old logs.

Of these 84,170 sleepers—

26,000 have been delivered at Delhi.
22,000 are in course of delivery.
30,000 were stacked on the river's bank and are now being floated out.
5,000 were stranded in the river.
1,170 rejected or lost in transit.
10,202 (10′ × 10″ × 5″) sleepers and 6,161 of 6′ × 8″ × 4″, the remnants of the sawings of 1876-77, were also delivered at Agra and Delhi during the year.

The following is a list of the trees given to villagers in accordance with their rights as reserved in the lease :—

Description of tree.	Green.	Dry.	Total.
Deodar	656	281	937
Other kinds	568	...	568
Total	1,224	281	1,505

There are now left in the forests 1,097 felled trees, 198 logs, and some refuse timber, sufficient in fact for about 50,000 (6′ × 8″ × 4″) sleepers. This timber must be converted into sleepers as soon as a demand arises for them, and that will be the last timber work in the deodar forests of this division for some years to come, for they now require rest and conservancy. It is a great pity that the Deputy Conservator (Mr. Amery) allowed so many trees to be felled last year.

28. **Jaunsar Division**—Yielded—

Trees felled for the Public Works Department at Chakráta :—

Deodar	8
Trees felled for sleepers, deodar	1,420
Ditto for public markets, chír	4

The following timbers, &c., were sold—

To Public Works Department and to private individuals at Chakráta.

	Cubic feet.
Deodar scantlings	17,053
Fir ditto	1,842
Fir poles	1,385
Oak do.	3
Sál do.	213
To State Railways.	
Deodar sleepers	131,638
To Public Market.	
Chír karris	19,775
Fuel to Chakráta.	
Oak and fir	129,567

To meet their rights in the Government forests the Jaunsár villagers were granted the following trees :—

Green deodar trees	144
Dry ditto	10
Refuse pieces of deodar	4,188
Fir and pine trees	122
Sál trees	24
Other kinds of trees	83
Poles of inferior kinds of trees ...	815
Pieces of wood for plough	95
Loads of firewood	1,630

II.—3A.—FORESTS UNDER CHARGE OF REVENUE OFFICERS, &c.

29. **Bijnor Forests.**—The Collector's report does not mention the Amsote and Mohanwála forests, so I conclude they have not yet been demarcated.

There were six cases of transgression of forest rules, and in each of them the offenders were convicted and punished. The Collector states that "the forests are reported not to have suffered from fire." Ninety-five dead sál saplings were felled in the Rehar forest and sold as poles.

30.—**Jhansi Forests.**—Mr. Story was in charge of the forests until March, 1878 ; he was then transferred to another district, and the forests were handed over to Mr. Barry, who wrote the annual report. Mr. Barry has since been transferred to Allahabad.

During the year, the whole of the State forests of the Jhánsi district, except 30 small plots were gazetted as Government forests under the (since repealed) Act VII. of 1865, and the Dhukwan and Sukwan forests (area about three square miles) were also gazetted as "closed." A reply has been received from the Deputy Commissioner regarding the demarcation of the Bangawan forest (see para. 40 of last year's report), to the effect that "a provision of Rs. 705 has been made in the current year's budget, and steps will be taken in the ensuing cold weather to have the forest demarcated."

Fourteen persons were prosecuted for breaches of forest rules, of whom 12 were convicted and sentenced to imprisonment for periods varying from a week to a month.

The officer in charge of the forests reports that "the measures taken for protection proved successful, and no fires broke out during the year."

Twenty-six acres were sown with babúl seed, but owing to the drought, the seed did not germinate, so the area of plantations remains as before.

The yield of the forests is reported to have been 1,598 small trees suitable for poles.

31. **Lalitpur Forest.**—Mr. Adams was in charge of the forests throughout the year. Major Liston resumed charge on the 6th April, 1878, and he wrote the annual report.

During the year the whole of the State forests in this district were gazetted as Government reserved forests under Act VII. of 1865.

Major Liston reports that the North-Western Provinces' Forest Rules of September, 1875, have been worked with success.

There were eight prosecutions during the year, in which 14 persons were involved; convictions were obtained in 7 cases, including 12 persons.

The Deogarh forest has been surrounded by a stone wall two feet high, at a cost of Rs. 95-8-0; both it and the Garauli forest have again been protected from fire.

Owing to the want of rain, and the consequent general poverty of the district, the demand for building materials (timber and bambus) was less than usual, as will be seen from the following statement of depôt sales for the last four years:—

1874-75.	1875-76.	1876-77.	1877-78.
Rs.	Rs.	Rs.	Rs.
587	708	923	539

The department now possesses 12 carts and 14 bullocks, and it is reported that 145,777 bambus and 250 poles have been brought to depôt by them during the year, and that they are a success.

32. **Forests leased to the Roorkee Canal Foundry and Workshops.**—Hitherto no mention has been made of these forests in the annual report, but the Superintendent has been requested to submit a report every year in future in time for the Conservator to include the information in his annual progress report.

The forests of Chandi and Patri are leased to the Roorkee Workshops for Rs. 5,000 per annum; both have been gazetted as Government reserved forests. Full information regarding area and boundaries, protection and improvement, and proposals for working was given in my No. 19, dated 15th April, 1876, to the address of the Secretary to Government, North-Western Provinces, Public Works Department, and paras. 2 to 13 of it will form a suitable preliminary to the present report:—

"2. The Patri forest is in the Saháranpur district; it covers an area of 13,933 acres, 12,081 of which are in one block and 1,852 acres comprised in four detached blocks, and is situated between the Ganges canal and the Ganges, about seven miles below Hardwár. The commonest trees are dhák (*Butea frondosa*) and various species of the fig tribe, but in the drier portions there are roli (*Mallotus Phillippinensis*), two species of ziziphus, and kura or dudhi. Probably about three-fourths of the forest is clothed (though sparingly) with trees, and the remainder is principally swampy ground, on which there is no tree vegetation. The soil is loamy sand of from 18" to 8' in depth, with a substratum of boulder stones. In the rainy season the water is within a few feet of the

surface. None of the figs are of any use either for fuel or charcoal. The dhák yields good fuel, but is not convertible into charcoal. The chief revenue is from grazing dues and grass, which amounted to Rs. 1,700 in 1874-75.

" 3. Mr. Campbell, the Superintendent of the Workshops, started a plantation at Firozpur three years ago and made a cut from the Ganges canal to irrigate it; the plantation now covers 80 acres, 59 of which are on Dr. Jamieson's system of sowing the seed in the water channels, and 21 acres of transplants from nurseries.

The following trees have been tried :—

1.	Sissu	(*Dalbergia sissoo.*)
2.	Tún	(*Cedrela toona.*)
3.	Papri	(*Baubinia variegata.*)
4.	Sirau	(*Albizzia stipulata.*)
5.	Siris	(*Albizzia lebbek.*)
6.	Bahera	(*Terminalia bellerica.*)
7.	Tar chirbi	(*Excœcaria lebifera.*)
8.	Sál	(*Shorea robusta.*)
9.	Khair	(*Acacia catechu.*)
10.	Kikar	(*Acacia Arabica.*)

Of these Nos. 1 to 4 are thriving very well, the seed has germinated freely, Nos. 5 to 7 appear to be fairly promising, and Nos. 8 to 10 are as yet somewhat doubtful.

" 4. The unhealthiness of the forest and the wild elephants made it difficult to get men to live on the plantation at first, but Mr. Campbell has now built a nice little cottage and some comfortable natives' houses, and he hopes in future to keep his establishment there throughout the year; he succeeded in this last year.

" 5. A small outlying plot (shown on the map) about a mile and a half north of the edge of the forest above Firozpur, called Phirupur, which by some extraordinary arrangement of settlement has been included in the Patri forest, was fenced round by Mr. Campbell in 1875 with a ditch 3′ wide by 3′ deep, the earth thrown up on the inside to form a bank, and has been preserved from fire and grazing ever since. The effect is really wonderful. I had no idea that such a change could take place in such a short time. We tried to get through it on elephants, but it was so thick with young roli, ber, kather, kura, &c., trees of about 15′ in height, that we were forced to turn back. The wonderful part of it is that when it was first fenced it was exactly the same as the rest of the surrounding jungle, and on this there are probably not more than 20 trees per acre, chiefly dhák, and so far apart that one can see for 200 yards or more in any direction. The only way to account for this thicket springing up is that there must be numerous roots of trees alive in the ground, and that the reason we do not see the shoots is because they are burnt and grazed down every year. Coming on this fenced bit without knowing anything about it, the impression would certainly be that it had been sown or planted. Any one who has charge of forests and is at all doubtful of the good results of keeping out fires and grazing should go and see it.

" 6. The general principle on which to work the Patri forest should be to introduce useful trees and gradually extinguish the comparatively useless figs and dhák; to a great extent I think this can be effected by conservancy and natural reproduction, especially on the drier portions. The whole tract is free of all rights, but it would be such a serious hardship to the surrounding population to close it *all*, that I should recommend *strict* conservancy being confined to such of the outlying plots as may be considered suitable and about three-eighths of the main block; this would probably be about 10 square miles, or one-half of the whole area, about four square miles might conveniently be fenced every year until the 10 miles are completed, these blocks should be divided into compartments of about one square mile each, the compartment lines to form both roads and fire traces.

" 7. The plantation work should also be extended within the 10 miles wherever it is found that natural production is insufficient. Mr. Campbell is going to try the Panjáb system this year of sowing on the slope of the banks formed by the earth thrown out from the irrigation cuts. I sent him a memo. which Mr. Minikon, the Forest Officer in charge of the Panjáb fuel plantations, kindly wrote for me on the subject.

" 8. If, with fire conservancy, thickets of trees suitable for charcoal spring up, as at Phirupur, the old dhák trees in the conserved portions should be removed, and they would meet the firewood demand (50,000 maunds per annum) for the workshops for some years to come.

" 9. The other main points which require attention regarding the Patri forest are :—

" (*a.*)—To straighten the boundaries if possible.

" (*b.*)—To do away with the numerous paths and roads by making perfectly straight roads where necessary, which can be controlled and also formed into fire lines. An example of this is shown on the map : the yellow lines are the existing paths and dotted ink line marked " proposed fire line" is the proposed road.

" (*c.*)—To purchase the narrow strip of land belonging to Budlakhera Mímla, which runs up into the forest for about 1½ mile. If His Honor approves, (*a*), (*b*), and (*c*) might be arranged by the Superintendent in communication with the Collector of Saháranpur.

" 10. The Chandi forest covers an area of about 35 or 40 square miles, some two-thirds of which is composed of steep slopes sparingly covered with trees and in parts thickets of bambus, the remainder being plateaus and valleys well suited for producing a good yield of charcoal wood, if preserved from fires.

" 11. The western and southern portions of the forest from Anjani to Dilighâti, and also the Ganges islands, have been worked, and are more or less getting recovered with trees which have sprung up from the stems or roots of the trees felled. The fellings have been confined to the plateaus and valleys, and I was glad to see that no trees on steep slopes had been cut.

" 12. For 1876-77 there is sufficient wood left between the two points named to give the amount of charcoal required (25,000 maunds per annum) ; in the valleys and flats between the Dilighâti and Hazáribágh there is enough for the next three years, *viz.*, up to 1879-80, and the Hazáribágh plateau with the islands and valleys between these and Anjani will, I think, be ample for four years more. This carries us to 1883-84 ; and if fire conservancy is carried out according to my suggestions, I feel confident that there will then be no fear of a scarcity, even if the workshops require nearly double the amount of fuel they now use.

" 13. This year the small plot between the Paili Ráo, the Najíbabad road, Sujanpur Paili, and the Ganges is being fenced (bank and ditch) and protected from fire, two or three acres being left out for the Paili camping ground. In 1876-77 the fine plateau above the Najíbabad road between the Simul Sot and the Paili Ráo should be fenced and protected from fire, the road from the junction of the Simul Sot and Najíbabad road to Khara which runs right through the block from south-west to north-east being straightened and formed into an intermediate fire line. This plateau will require planting in some of the more open glades, and probably the best and cheapest way to do this would be to plough the ground at the commencement of the rains and sow seed of padul, amaltás, siras, papri, dhoura, and roni, all of which are trees of good rapid growth, first rate for charcoal and suitable for the dry soil of that plateau ; eight acres were sown in this manner in 1875, and the young trees appeared to be thriving well when I saw them in December last. Also in 1876-77, all the flats and islands below the hills between the Doowali Sot and the Garhwál and Bijnor boundary road should be protected from fire by cutting a line along the base

of the hills with a small bank and ditch on the eastern edge of the line, and another bank and ditch about 20 yards below the boundary road from Khara to the Miti Sot, the Deowali Sot being the protection line on the south, and Paili Ráo and Miti Sot on the east. In 1877-78 the Hazáribágh plateau should be fenced and protected."

Paragraph 13 of the abovementioned letter prescribed the works which in 1876 I considered necessary for the improvement and protection of the Chándi forest, but I am sorry to have to report that nothing whatever has been done beyond completing the fencing of the "small plot between the Paili Ráo, the Najíbabad road, Sujanpur Paili, and the Ganges." No proper precautions have been taken to preserve the forest from fire: all of it has been burnt every year, except such small portions as may have escaped by chance; and unless the Superintendent commences the works of improvement next year and goes on with them as directed, I shall feel it my duty to propose that the Chándi forest be taken from him and placed under charge of the Garhwál Deputy Conservator, for a continuance of such treatment will ruin it entirely.

In 1876 another plot of eight acres of the plateau above the Najíbabad road, between the Simal Sot and the Paili Ráo, was sown; but both it and the other eight acres plot have been burnt since, and the work will have to be commenced anew.

The Superintendent excuses himself on the plea of "want of funds and assistance." The revenue realized from the Chándi and Patri forests in 1876-77 was Rs. 16,826. The Superintendent has not stated the cost of establishment, &c., for the collection of this amount of revenue, nor has he given the cost of the works of improvement in the Patri forest; but it strikes me that the surplus must have more than covered both; if it was so, the balance ought to have been devoted to the conservation of the Chándi forest.

The yield of the Chándi forest from April, 1877, to March, 1878, was—

Charcoal	...	...	...	30,758	maunds.
Firewood	...	...	...	7,611	„

The charcoal was made in twelve of the valleys on the west side of the forest and in thirteen of the valleys on the south side.

In para. 12 of my No. 19 I expressed an opinion that there was sufficient wood left in these valleys to yield the charcoal required for 1876-77. I had not then had an opportunity of examining all the valleys carefully, and it appears that my estimate was below the mark. In 1878-79 charcoal will be made in the valleys on the east side of the forest, *viz.*, between the Dilighâti and Hazáribágh.

The firewood was prepared from trees which are not suitable for charcoal.

In the Patri forest some good work has been done during the past year:—

A boundary line 20,577 feet in length along the Cholampur and Dinapur boundaries has been laid out and demarcated by a bank and ditch; another boundary line of 12,837 feet in length has been laid out, but the assent of the Collector has to be obtained before the demarcation fence can be commenced; the outlying plot of Bhowánipur-Jamálpur having been encroached on by a neighbouring zemindar, the boundaries were surveyed and demarcated by a bank and ditch 20,532 feet in length; the outlying plot of Khizarpur Kalungia was demarcated by a bank and ditch 12,439 feet in length; the fire conservancy arrangements directed in paras. 6 and 9 (*b*) of my No. 19 have been carried out to some extent. The Superintendent reports that the fire line proposed by the Conservator, extending from the Firozpur plantation to the Patri river, has been cleared of grass and trees and the roots dug out; this line is 16,000 feet in length and 40 feet broad, and on either side of it a bank and ditch have been con-

structed, the ditch being two and a half feet wide at the top and two feet deep; and at the Patri river end of this fire line a girder bridge of two spans of 30 feet each, on iron piles, has been erected.

The outlying plot of Phirupur, described in para. 5 of my No. 19, has been all felled. Regarding this work the Superintendent writes: "we shall get from this some idea of the amount of wood obtainable per acre; and also in years to come, when it is again cut down, we shall get a measure of the productive powers of such land."

The Superintendent gives no concise information regarding fire conservancy; he merely says "there were very few fires this year." He has been requested to give full particulars in future.

Regarding the Firozpur plantations mentioned in para. 3 of my No. 19, the Superintendent writes: "there has been very little done to the plantation this year; the only tree that really does well is the sissu, and this is now being sown in the places where other kinds have failed."

I visited this plantation in December last and came to the same conclusion the Superintendent has arrived at regarding sissu. Other trees live and grow, but none of them thrive like the sissu: it seems most thoroughly suited to the soil and climate of the Patri forest.

II.—4.—FINANCIAL RESULTS.

33. **Naini Tal Division—**

	Actuals.			Percentage of expenditure to receipts.		
	1875-76	1876-77.	1877-78.	1875-76.	1876-77.	1877-78.
	Rs.	Rs.	Rs.			
Receipts ...	5,124	18,010	15,285	·565	·471	·631
Expenditure ...	2,900	8,493	9,648			

DETAIL OF REVENUE.

I. (*b.*)—Hard wood fuel supplied to the Commissariat Department, cut and collected, and stacked in forest depôt :—

	Rs.	a.	p.
12,106 maunds at rates ranging from Rs. 14-12-0 to Rs. 18-4-0 per 100 maunds of 82 lbs ---	1,928	6	6
Pine wood fuel cut and collected and carried to the Commissariat depôt :—			
5,409 maunds at Rs. 31-4-0 per 100 maunds ...	1,690	5	6
Pine wood fuel cut and collected and stacked in forest depôts :—			
9,615 maunds at Rs. 16-4-0 per 100 maunds ..	1,562	5	9
	5,181	1	9

All the above fuel was cut from old stumps or fallen wood.

	Rs.	a.	p.
II. (*a*)—770 pine trees for building, various rates ...	4,886	14	0
5 ash trees, 131 cubic feet at Rs. 0-8-0 ...	65	8	0
10 alder „ 555 „ „ „ 0-1-0 ...	34	11	0
1 oak tree, 40 „ „ „ 0-1-0 ...	2	8	0
8 inferior kinds at Re. 1 each'	8	0	0
	4,997	9	0

	Rs.	a.	p.
II. (*b.*)—Wood (154 trees) for burning 5,300 maunds of lime at Rs. 8 per 100 maunds	424	0	0
15,777 maunds charcoal, at Rs. 0-2-0 per maund ...	1,972	1	9
2,620½ „ „ (from outside forest boundary) at Rs. 0-1-0 per maund	163	12	6
1,108½ maunds charcoal (for the Brewery) at Rs. 0-2-0 per maund	138	9	4
18⅔ maunds pine charcoal (from stumps) at Rs. 0-2-0 per maund	2	4	9
Auction sale of contract for pine charcoal ...	100	0	0
Fuel for Brewery, 326 maunds, at Rs. 0-1-0 per maund,	20	6	2
Contract for ghingháru walking-sticks ...	20	0	0
3,047 jhampani wood tickets at Re. 0-8-0 ...	1,523	8	0
213 coolies' „ „ „ 0-4-0 ...	53	4	0
123 Sunday „ „ „ 0-1-0 ...	7	11	0
	4,425	9	6
II. (*d.*)—Grazing dues = 536 buffaloes at Re. 0-4-0 each, 571 cows and bullocks „ „ 0-1-0 „	169	11	0
II. (*e.*)—Wood for 6 chapars at Re. 1 each	6	0	0
60 acres, 1 rood, 11 poles potato cultivation at Rs. 5 per acre	301	9	6
	307	9	6
V. (*a.*)—Fines	203	13	9

Compared with 1876-77, there is a decrease in receipts of Rs. 2,725 and an increased expenditure of Rs. 1,155.

Owing to the increased demand for charcoal in Naini Tal it was considered necessary to put a stop to lime-burning and to the supply of charcoal to the Brewery; this has caused a decrease of Rs. 3,740. Potato cultivators are being gradually got rid of and there is a decrease of Rs. 270 under this head. The Commissariat Department took Rs. 469 worth less fuel than last year.

But the results of 1877-78 are very satisfactory: there is an increase under all other items except those abovementioned.

The increased expenditure is fully accounted for by Rs. 1,900 having been spent in demarcating the forest boundary and all the numerous plots of cultivation within it by masonry pillars.

The outstanding at close of the year amounted to Rs. 510-5-11. There were no liabilities.

34. **Ranikhet Division—**

	Actuals.			Percentage of expenditure to receipts.		
	1875-76.	1876-77.	1877-78.	1875-76.	1876-77.	1877-78.
	Rs.	Rs.	Rs.			
Receipts ...	15,698	11,885	12,883	·998	1·343	1·403
Expenditure ...	15,673	15,963	18,082			

DETAIL OF REVENUE.

	Rs.	a.	p.
II. (*a.*)—410 pine trees for building to the Public Works Department, Military Works	3,142	8	0
280 pine trees for building to private persons ...	1,463	2	0
30 small ditto to Telegraph Department,	32	0	0
Royalty on 221 charpoys	13	13	0
	4,651	7	0
II. (*b.*)—Royalty at the rate of Re. 0-1-0 per maund on 1,07,395½ maunds fuel for the Commissariat Department	6,712	3	1
Fuel supplied to bazars	14	12	0
130 squatters' huts at Re. 1 each	130	0	0
29 ditto „ Re. 0-8-0 „ ...	14	8	0
Miscellaneous	70	6	0
	6,941	13	1
II. (*d.*)—Grazing dues and fodder grass	394	12	0
II. (*e.*)—Flag-stones, quarries, and orchard fruits ...	87	3	0
V. (*a.*)—Fines	227	0	0
V. (*c.*)—Other sources	580	7	0

Notwithstanding the decrease in the number of trees supplied to the Public Works Department there is an increase in receipts of Rs. 1,000, and the Deputy Conservator agrees with me in thinking that in 1878-79 this division will show a small surplus of profit.

The expenditure under A. was less by Rs. 2,000 than in 1876-77, but the B. expenditure is Rs. 4,000, more than last year, and this is due to both Messrs. Brereton's and Dansey's pay for June and July having been charged to the division, and also Mr. Brereton's officiating pay as Deputy Conservator, 2nd grade, from July to March: the increase is entirely under B. I. *b.*

At the close of the year the outstandings amounted to Rs. 196 (since recovered), due on account of revenue. There were no liabilities.

35. **Kumaun Division—**

	Actuals.			Percentage of expenditure to receipts.		
	1875-76.	1876-77.	1877-78.	1875-76.	1876-77.	1877-78.
	Rs.	Rs.	Rs.			
Receipts	2,65,142	2,18,166	1,79,364	·342	·384	·419
Expenditure ...	90,911	83,899	75,202			

DETAILS OF REVENUE.

	Rs.	a.	p.	Rs.	a.	p.
I. (*a.*)—Sál logs	22,338	14	4			
„ kolhús	94	12	5			
„ beams	61	3	8			
„ sleepers	228	9	10			
„ karris	48,920	10	8			
„ planks	109	6	10			
„ gindas	856	10	6			
Carried over	72,610	4	3			

		Rs.	a.	p.	Rs.	a.	p.
Sál ballis ...	...	107	1	1	72,610	4	3
Sein karis ...	...	554	8	3			
Haldu ,, ...	...	840	6	4			
,, batas ...	...	60	12	0			
,, logs ...	...	153	3	5			
Dhouri karis ..	...	1	14	6			
,, logs ...	...	14	3	4			
,, sleepers	...	10,321	3	6			
Tun planks ...	...	22	8	0			
Jamun karis ...	...	908	9	2			
Sein and Jamun logs	...	76	10	2			
Chír karis ...	...	458	14	11			
,, sleepers ...	...	6,040	12	11			
Inferior kinds of karis	...	156	8	10	19,717	4	5
					92,327	8	8
II. (*a.*—Trees, bansas, ballis, &c., removed by purchasers.					8,912	12	3
Tors, golas, &c. (poles),	ditto			...	41,131	8	0
II. (*b.*)—Firewood and charcoal,	ditto			...	3,664	6	8
II. (*c.*)—Bambus,	ditto			...	12,047	8	11
II. (*d.*)—Grazing and fodder grass,	ditto			...	8,392	2	10
II. (*e.*)—Other minor produce,	ditto			...	11,447	14	5
III.—Confiscated, drift, and waif wood				...	587	6	5
V. (*a.*)—Fines and forfeitures				...	811	7	6
V. (*b.*)—Refunds				...	0	13	3
V. (*c.*)—Other sources				...	40	14	1

There is an increase of nearly Rs. 4,000 in depôt sales compared to 1876-67, and the following are the decreases under articles removed by purchasers:—

				Rs.
Trees, bansas, ballis, &c.	...	...	...	7,400
Tors, golas, &c.	...	...	...	25,300
Firewood and charcoal	...	...	...	850
Bambus	...	...	...	3,150
Other minor produce	...	...	...	5,300
And a decrease under fines, &c., of		...	...	750

The depôt stock has been reduced from Rs. 82,788 cubic feet at the commencement of the year to Rs. 48,796 at the close, and all the oldest stock has been disposed of; this is in accordance with the instructions contained in para. 17 of the Government of India letter No. 26F., dated 11th January, 1878. The year was exceptionally unfavourable for making revenue under head II.; food was so dear in the Bhábar that the hill people did not come down in large numbers to collect bambus and other minor produce during the cold season, as they usually do; and for the same reason the petty merchants and exporters from the plains came in less numbers than usual.

Under the circumstances the results of the year may be considered quite satisfactory.

The Moradabad depôt is doubtless getting better known, and should, I think, be maintained, for it certainly must be a convenience to the public to be able to get good timber at moderate and fixed rates on the line of railway. The sales at this depôt were Rs. 36,898 in 1877-78 against Rs. 23,623 in 1876-77.

The increased percentage of expenditure to receipts is entirely due to the decrease of revenue under head III; whether the receipts are large or small, the same amount of collection chaukis and establishment to look after them must be maintained.

The outstandings at the close of the year were—

	Rs.	a.	p.
Due on account of contractors	...		
Ditto disbursers	400	0	0
Ditto revenue	2,254	4	8

There were no liabilities and the outstandings are all recoverable.

36. Garhwal Division—

	Actuals.			Percentage of expenditure to receipts.		
	1875-76.	1876-77.	1877-78.	1875-76.	1876-77.	1877-78.
	Rs.	Rs.	Rs.			
Receipts	2,00,947	1,40,323	1,73,348	·428	·597	·331
Expenditure	85,194	83,783	57,450			

DETAILS OF REVENUE.

	Rs.	a.	p.	Rs.	a.	p.
I. (a.)—Sál logs	1,295	14	11			
„ beams	6,725	14	3			
„ sleepers	4,646	5	8			
„ planks	15	7	0			
„ karis	15,412	8	6			
„ jorás	78	12	0			
Sein logs	12,142	5	4			
„ karis	39,711	11	7			
Bakli logs	381	4	1			
Inferior kinds of karis	540	8	0			
„ „ ballas	2,274	0	0			
„ „ tors	3,310	2	4			
„ „ ballis	1,152	12	0			
„ „ tarans (floats) ...	153	12	0			
„ „ batas	15	0	0			
I. (c.)—Bambus	84	0	0			
				87,940	5	8
II. (a.)—Sál timber, removed by purchasers ...	24,791	2	2			
Sandan ditto ...	1,557	8	4			
Sisham ditto ...	302	8	8			
Tun ditto ...	253	2	0			
Inferior ditto ...	1,249	13	11			
Khair (churans) ditto ...	684	12	0			
				28,838	15	1
II. (b.)—Firewood				548	13	10
II. (c.)—Bambus				47,295	5	9
II. (d.)—Grazing dues and fodder grass ...				3,782	7	3
II. (e.)—Other minor produce				4,310	11	8
III.—Confiscated, drift, and waif wood ...				403	8	6
V. (a.)—Fines and forfeitures				147	0	1
V. (b.)—Refunds				70	7	7
V. (c.)—Other sources				10	0	0

There is an increase of Rs. 41,600 in depôt sales compared to 1876-77; and this does not surprise me, for during the time Mr. Colvin was unwell the merchants did not like to go near him.

The Garhwál and Kumaun Divisions are similarly circumstanced regarding favourable or unfavourable years for collecting revenue under head II., and I am well pleased to find that Mr. Grant has been able to show a revenue under II. of only Rs. 7,200 less than last year, notwithstanding the unusually unfavourably conditions of the year 1877-78.

There is a decrease of expenditure under A. of Rs. 25,600, and a decrease under B. of Rs. 700, if compared with the figures of 1876-77. The decrease under A. is made up of a decrease of Rs. 31,500 under I. (*a*) with increases under VII. of Rs. 4,600, and under VI. (*c*) of Rs. 500, and a few petty increases under other heads.

The outstandings at the close of the year were—

	Rs.	a.	p.
Due on account of contractors...	1,008	0	0
„ „ disbursers	300	0	0
„ „ revenue	7	5	11

There were no liabilities.

37. **Dehra Dun Division—**

	Actuals.			Percentage of expenditure to receipts.		
	1875-76.	1876-77.	1877-78.	1875-76.	1876-77.	1877-78.
	Rs.	Rs.	Rs.			
Receipts	67,521	63,033	77,221	·377	·569	·642
Expenditure	25,471	88,194	49,620			

DETAILS OF REVENUE.

		Rs.	a.	p.	Rs.	a.	p.
I.	(*a*)—Sál karis	10,385	12	10			
	„ other pieces ...	1,220	8	0			
	Other kinds of timber ...	387	14	5			
					11,994	3	3
II.	(*a.*)—Timber removed by purchasers ...				10,040	0	10
II.	(*b.*)—Firewood and charcoal ditto ...				9,132	2	11
II.	(*c.*)—Bambus ditto ...				10,904	5	2
II.	(*d.*)—Grazing and fodder grass ditto ...				24,957	11	3
II.	(*e.*)—Other minor produce ditto ...				8,905	7	1
III.	—Confiscated and drift wood ...				147	14	0
V.	(*a.*)—Fines				409	4	3
V.	(*b.*)—Refunds				728	5	11
V.	(*c.*)—Other sources				1	8	0

Compared with 1876-77 there is an increase in revenue of Rs. 10,000, which is principally due to increased sales of timber removed by Government agency, and to a large increase in grazing dues owing to the unusually large number of cattle which flocked into the forests from the Panjab; but there was a decrease of nearly Rs. 9,000 in timber and bambus removed by purchasers, due to the general poverty in the district.

Rs. 9,300 of the increased expenditure of Rs.11,400 is to due to increased pay and travelling allowance to superior officers; the increase under A. is only Rs. 2,000, and the results of the year may be considered satisfactory.

The outstandings at the close of the year were—

	Rs.	a.	p.
Due on account of contractors ...		...	
„ „ disbursers ...	286	0	6
„ „ revenue ...	2,395	14	3

The Departmental liabilities amounted to Rs. 6,000, which amount was advanced by a contractor for timber which had not been supplied when the year closed.

The outstandings are all recoverable. There were no liabilities.

38. **Bhagirathi Division—**

	Actuals.			Percentage of expenditure to receipts.		
	1875-76	1876-77.	1877-78.	1875-76.	1876-77.	1877-78.
Receipts	1,00,480	87,964	1,21,129	·841	1·628	·473
Expenditure	84,600	1,43,219	57,408			

DETAILS OF REVENUE.

		Rs. a. p.	Rs. a. p.
I. (*a.*)—Deodar sleepers 10′ × 10″ × 5″		36,244 0 0	
Broken ditto ...		2,037 8 0	
Deodar ditto 6′ × 8″ × 4″ ...		76,244 0 0	
Kukat tors		22 8 0	
Churans		4 12 0	
Ballas		5 0 0	
Sál wood		12 0 0	
			1,14,569 12 0
I. (*b.*)—Firewood		...	985 1 8
II. (*a.*)—Timber removed by purchasers		...	130 5 6
II. (*c.*)—Minor produce ...		..	3 0 0
III. —Confiscated and drift wood		..	554 3 9
V. (*a.*)—Fines and forfeitures ...		...	69 0 0
V. (*b.*)—Refunds		...	4,802 2 9
V. (*c.*)—Other sources		...	15 4 0

The revenue is swelled by the sale of sleepers ; it is rather less than usual under other heads.

The decrease in expenditure is due in a great measure to the advance of Rs. 50,000 to the contractor during 1876-77, mentioned in para. 48 of last year's report; and to some extent to no superior officer's pay having been debited to the division for the last half of the year.

The outstandings at close of the year were—	Rs. a. p.
Due on account of contractors, ...	3,942 12 0
,, ,, disbursers	83 6 2

There were no liabilities and the outstandings are all recoverable.

39. **Jaunsar Division—**

	Actuals.			Percentage of expenditure to receipts.		
	1875-76.	1876-77.	1877-78.	1875-76.	1876-77.	1877-78.
	Rs.	Rs.	Rs.			
Receipts	2,22,247	2,03,628	2,03,858	·753	1·064	1·070
Expenditure	1,67,516	2,16,670	2,18,268			

I am unable to give any further details of the revenue of this division beyond what will be found in the forms attached to this report.

A reference to the budget report will show that the actuals of receipts are an increase on the regular estimate of Rs. 1,21,800, and that the expenditure has been Rs. 24,600 below the estimate. The increase in revenue is almost entirely due to the Engineer-in-Chief of the Scindia State Railway having paid for some thirty odd

thousand sleepers in March, 1878, in contradiction to the arrangements made; he agreed to accept delivery of these sleepers during 1877-78, but stated that he could not pay for them until the commencement of 1878-79, and this has of course upset my estimate.

The decrease in expenditure is due to—(*a*) the Public Works Department having cut down their indent = a saving of Rs. 16,600 under A. I. (*a*); (*b*) the Commissariat Department had overestimated their requirements of fuel = a saving of Rs. 3,100 under A. I. (*b*); and to the Jaunsár share of rent of the leased forests not having been paid by that division during the year = a saving of Rs. 4,500 under A. V.

The Jaunsár results are quite satisfactory.

The outstandings at the close of the year were—

	Rs.	a.	p.
Due on account of contractors	8,905	8	5
" " disbursers	38,078	12	0

The whole of these outstandings are recoverable, except perhaps the one item of Rs. 1,886-9-8* due on decree from one Bud Singh; it seems doubtful if this will ever be recovered. Rs. 29,100 are due to laying in large stores of grain for the labour employed on the sleeper works, Rs. 8,900 due on imprests and other recoverable advances to officers for works, Rs. 7,000 due from fuel carrying contractors, of which all will probably be recovered within the current year.

There were no liabilities.

40. **Bijnor forests—**

	Actuals.			Percentage of expenditure to receipts.		
	1875-76	1876-77.	1877-78.	1875-76.	1876-77.	1877-78.
	Rs.	Rs.	Rs.			
Receipts	16,876	5,946	9,531	·194	·502	·161
Expenditure	3,274	2,990	1,536			

Allowing for the sum of Rs. 5,000 paid by the Superintendent of the Roorkee Workshops, the revenue is about Rs. 1,400 less than usual, but the Collector explains that this is due to the unusual poverty of the district during 1877-78; the expenditure has, however, been well kept down, the percentage of expenditure to receipts is considerably below the average.

The difference in receipts in 1875-76 and 1876-77 was explained in para. 50 of the last annual report.

The outstandings at the close of the year were—

	Rs.	a.	p.
Due on account of contractors	40	0	0
" " disbursers	400	0	0
The liabilities are shown as	253	0	6

41. **Jhansi forests—**

	Actuals.			Percentage of expenditure to receipts.		
	1875-76	1876-77.	1877-78.	1875-76.	1876-77.	1877-78.
	Rs.	Rs.	Rs.			
Receipts	2,727	2,860	3,319	·767	·734	·704
Expenditure	2,093	2,100	2,339			

* Sanction to the writing off of this sum has, however, been received, *vide* Government of India, Department of Revenue, Agriculture and Commerce, letter No. 600F., dated 13th June, 1878, to the Secretary to Government of North-Western Provinces and Oudh in the Revenue Department, Forest Branch. Rs. 304 of the amount, have, however, since been recovered from the contractor's sureties, leaving Rs. 1,582-9-4 probably unrecoverable.

The increased revenue is due principally to larger sales of grass than usual, owing to the scarcity of fodder in the district. The percentage of expenditure to receipts is good.

There were no outstandings or liabilities at the close of the year.

42. **Lalitpur Forests**—

	Actuals.			Percentage of expenditure to receipts.		
	1875-76.	1876-77.	1877-78.	1875-76.	1876-77.	1877-78.
	Rs.	Rs	Rs.			
Receipts	3,890	5,249	4,217	·584	·521	·591
Expenditure	2,273	2,735	2,495			

Compared with 1876-77 the revenue has decreased under almost every head. The principal decreases are—

Rs.	
600	under timber.
224	,, bambus.
214	,, grazing dues.
107	,, minor produce.

The Deputy Commissioner explains this as follows :—

" The income of the department has to some extent fallen during 1877-78 in comparison with 1876-77 ; the year was not favourable for want of rain in June and July, 1877, and owing to the general poverty of the district, the demands for building materials (ballis and bambus) were comparatively less."

The outstandings at the close of the year were—

	Rs.	a.	p.
Due on account of contractors ...	...	...	...
,, ,, disbursers ...	... 218	0	8
,, ,, revenue ..	... 49	1	0

There were no liabilities.

The outstandings are recoverable.

43. **General Summary**—The following statement shows the actuals of receipts and expenditure for the last four year's including 1877-78 :—

	Actuals.			
	1874-75.	1875-76.	1876-77.	1877-78.
	Rs.	Rs.	Rs.	Rs.
Receipts	10,85,947	9,69,698	8,15,221	8,00,156
Expenditure	8,55,876	5,37,914	6,54,930	5,22,294
Percentage of expenditure to receipts ...	·788	·554	·803	·652

It must be remembered that the Gorakhpur and Bareilly forests were transferred to the Conservator of Oudh during the year under review ; this accounts for a diminution of about Rs. 54,000 in receipts and of about Rs. 27,000 in expenditure.

The percentage of expenditure to receipts of 1877-78 is considerably below the average of the three previous years, but if the Rs. 50,000 mentioned in para. 52 of last year's report be deducted from 1876-77 and added to 1877-78, the results of the present year would not appear so favourable.

44. Paragraph 43 treats of the figures of the year, but the following summary shows the actual profits :—

Particulars.	Amount in Rs.
Receipts of the Department during, 1877-78	8,00,156
Expenditure ditto ditto	5,22,294
Surplus ...	2,77,862
Value of timber at commencement of the year	3,61,565
Ditto close ditto	3,35,093
Difference against the year to be deducted	26,472
Balance ...	2,51,390
Value of live and dead stock at commencement of the year ...	99,404
Ditto close ditto ...	1,11,765
Balance to be added	12,361
Balance ...	2,63,751
Deduct— Amount of revenue realized on account of previous periods ...	11,273
Balance ...	2,52,478
Add— Outstandings of the year minus bad debts (1,582)	57,493
Balance ...	3,09,971
Add— Amount disbursed on account of previous periods	7,462
Balance ...	3,17,433
Deduct— Amount due on transactions of the year, but not yet paid ...	6,253
Balance ...	3,11,180
Deduct— Outstandings at commencement of the year	1,15,335
Balance showing actual profits of the year ...	1,95.845

IV.—GENERAL REMARKS.

45. Certain portions of the Government of India review on the North-Western Provinces' Annual Progress Report of Forest Administration for 1876-77 require notice.

Last clause of para. 2.—Appendix A. is a statement "showing approximately the areas stocked with sál, deodar, and other classes of forest" for all divisions except Naini Tal, Garhwál, Bhágirathi, Jhánsi, and Lalitpur.

Para. 5.—The last clause reads as follows :—"The detailed statements which precede the summary printed on page 52 are interesting ; but, unless His Honor should specially desire it, it seems unnecessary to print them in the annual report, provided the prescribed information is given in the summary." The *summary only* has accordingly been submitted with this report; but it may be as well to bear in mind that the information under "year when protection commenced" is rather vague ; it merely represents the year when fire-conservancy operations were first commenced in the divisions, and must not be understood to imply that *the whole* of the areas of each division have been protected ever since the years opposite to them in column 10 of the form.

Para. 7.—The further experience of the working of the rules to regulate the shooting and fishing by the men of the Gurkha Regiment has been reported on in para. 19.

Para. 16.—The last sentence of this para. reads as follows:—"There are other entries in the statement in para 53 of the Conservator's report which cannot be traced in the returns appended to the report, and, upon the whole, the Governor-General in Council is not disposed to attach much value to the calculation recorded in the passage quoted."

In his No. 263, dated 13th March, 1878, to the address of the Secretary to Government, North-Western Provinces and Oudh, Public Works Department, the Conservator, whilst acknowledging his mistake in not having deducted the outstandings at the commencement of the year from the calculations recorded in para. 53 of his Annual Report for 1876-77, had the honor to point out that he was unable to find any mistake in any of the figures, and he also gave full details showing how they had been arrived at, and where they were to be found in the returns appended to the report. As no reply to this letter has been received, I trust it has been discovered that the Conservator's calculations were of more value than he was given credit for.

Para. 17.—The value of timber in hand at the commencement of the year was Rs. 3,61,565,* and at the close of the year Rs. 3,35,093†. The value at close of the year includes Rs. 65,896‡ worth of sleepers in the Jaunsár division.

* Includes Rs. 10,915 worth of firewood.

† Includes Rs. 28,004 worth of firewood.

‡ 31,902 (10′×10″×5″)
17,013 (6′× 8″×4″)

The Kumaun and Garhwál depôt stocks have been reduced to the extent of Rs. 77,145, and the Dehra Dún has an increase of Rs. 11,110.

The cash balances at the commencement of the year were ... Rs. 51,239
and at close of the year, ... „ 34,687

46. **Naini Tal Division.**—In the Annual Report for 1873-74 I wrote of these forests as follows :—

"They have always been carefully looked after, thanks to the Commissioner of Kumaun, and consequently are quite capable of yielding all that is likely to be ever required from them." Since then conditions have considerably altered: up to 1874-75 the number of trees used annually *for charcoal* did not exceed 400, but since then the demand has increased enormously, as may be seen from the following figures :—

	1875-76.	1876-77.	1877-78.
Number of trees supplied for charcoal	1,086	1,300	2,294

Since coming to Naini Tal this summer I have been devoting all my available early mornings to going out into the forest and painting the different descriptions of forest on to an excellent tracing furnished by the Superintendent of Forest Surveys, in the following classification :—

Pinus longifolia forest	yellow.
Scattered pines	yellow dots.
Hard wood forest, fully stocked	green.
Ditto half ditto	pink.
Ditto quarter ditto	brown.
Blanks	uncoloured.
A line round the station showing the area set apart for the collection of fallen wood by jhampannias, &c., within which no green trees must be felled ...	vermilion dots.

I hope to be able to finish this in about six weeks or so, and shall then be in a position to form a rough idea of the contents of the forests, and fix what must be accepted as the maximum annual yield until a more accurate valuation is completed.

An enumeration valuation of a few selected compartments is being conducted by the European Forest Ranger, to enable me to form some idea of the contents of my different classes of forest; but as soon as this is finished the valuation must be stopped untill the autumn, for the work cannot be done economically during the rains.

I have finished a large proportion of the hard wood forests, have gone sufficiently far in fact to enable me to be quite sure that the maximum annual yield will be considerably below the present demand; however, I will endeavour to have some figures ready to place before the Municipal Committee by September next, so as to give them time to make arrangements for next year's supply for charcoal. I do not anticipate a deficiency in pine timber for building purposes. The Commissioner has decided that the Naini Tál forests are so burdened with village rights that they must be "protected" forests under the new Act; this of course means that they can never be expected to yield the same amount of wood as if they were "reserved," for the conservancy must necessarily be much less strict.

47. **Ranikhet Division.**—The "closed reserve" is to be regazetted as "reserved," and all the rest of the forests "protected." I can say nothing as yet regarding the yield of these forests with reference to the demand, but the enumeration valuation of the closed reserve which is to be commenced at the close of the rains, and the survey which is to be made by the Forest Survey Department next autumn, will, it is hoped furnish some valuable date for the 1878-79 report.

There is nothing particular to record concerning any other of the divisions which are under charge of forest officers beyond what is mentioned in the body of the report, except that we are still very much bothered by a man-eating tiger in Garhwál, which killed 13 bamboo-cutters between November and May. A party of the Gurkha Regiment from Almora were trying for this tiger for about two months last winter, but they never got a shot at him; he is a very cunning beast, he never leaves the outer range and never comes back to his kill.

All the officers have done good service during the past year; they are an excellent lot of Forest officers. Mr. Dansey must have passed a very monotonous five months in the Mondhal valley, a lonely out-of-the-way place with no European companion, but he worked hard at his valuation survey and never complained; and Mr. Grant did a month's valuation work in the Naini Tal forests in September last, in addition to his duties as in charge of Garhwál Division; Captain Campbell again managed the Kumaun Division with his usual tact and skill; and Mr. Brereton seems thoroughly well suited to Ránikhet and promises to bring the division into good working order ere long.

The Dehra Dún and Jaunsár Divisions are, I hear, to be taken from me in September next, to be formed into a separate Conservatorship for a Forest School. Both of these divisions (Jaunsár especially) are in a very forward state, thanks to their excellent Deputy Conservators Messrs. O'Callaghan and Bagshawe; their boundaries are all settled and demarcated, rights defined, and everything in perfect working order. Both of these Deputy Conservators report in high terms of the capital work done by their Assistant Conservators, Messrs. Rind and O. Greig, during the past year.

The revenue officers in charge of forests complain of extra work thrown on to their offices by the new system of accounts which was introduced into the Forest Department on the 1st April, 1877. The Deputy Commissioner of Jhánsi writes as follows:—

"The new and elaborate system of accounts introduced into this district at the commencement of the year under report has proved very burdensome to an office which was already sufficiently hard worked, and no allowance of any kind to the clerk who does this work. Uniformity is no doubt desirable, but a glance at the returns now submitted will, I think, show that the system is very cumbrous in a district where the forest income is so inconsiderable."

The Deputy Commissioner of Lalitpur also says that the new system of accounts "has thrown much extra work on my office in preparation and punctual submission of the

numerous returns. It has now become absolutely necessary to entertain a special muharrir; and I have therefore to request that you obtain the sanction of Government to the entertainment of a muharrir on Rs. 12 a month."

Proposals have been submitted to Government for the sanction of extra office establishment for both Jhánsi and Lalitpur.

All the members of Conservator's office have worked very well and the office is in excellent order. Mr. Braidwood, who is in charge, and who also has charge of the Naini Tal Division, is a thoroughly good Forest officer,

47. Appendices B, C, and D contain the following reports :—

(*B*)—From Mr. Craw on 2lbs of Pinus gerardiana seed sent by the Inspector-General.

(*C.*)—From the Superintendent, Government Botanical Gardens, North-Western Provinces, on the experimental cultivation of species of eucalyptus and other plants from seed received from Government, North-Western Provinces, and from the Inspector-General of Forests.

(*D.*)—From the Superintendent, Government Botanical Gardens, North-Western Provinces, on the condition of seedlings of the Mesquit of Taxas (*prosopis glandulosa*).

(*E.*)—From the Deputy Conservator, Jaunsár Division, No. 72, dated 5th July, 1878, on the completion of the Canal slide alluded to in para, 21 of this report.

48 The following is a brief account of the fires that have occurred in the different divisions during the period between the date of writing this report and the commencement of the rains.

Naini Tal Division.—On the 13th June some person unkown set fire to the chír forest below Dhunikhal in nine places. Fortunately the forest was too green to burn at night, and the fire only spread over about five acres and did not cause much damage.

Ranikhet Division.—No fresh fires.

Kumaun Division.—No fresh fires.

Garhwal Division.—No fresh fires.

Dehra Dun Division.—On the 13th June 40 acres of the Thano forest were burnt; the fire got into the forest from the Joli and Rámnagar grants.

Jaunsar Division.—There were no fresh fires, and I observe that the small fire noticed in para. 21 of the report has not been mentioned in form 47; probably it was too insignificant to deserve notice.

The Deputy Conservator has obtained from the Superintendent of Forest Surveys correct areas of *some* of the fire-protected forests, but I think it best to maintain the old *approximate* figures until *all* the areas can be given *correctly*. The increase in area protected represents the leased forests of Dartmir, Shialna, and Banal = 4,160 acres.

Bijnor Forests.—The Collector reports that "no portion of the forests protected from fire during the past financial year were burnt between the 1st April last and the commencement of the rains on the 7th July, 1878." In his form No. 47 the Collector shows the whole of the Rehar, 15,719 acres, as protected from fire; but I have a report from the Deputy Conservator of the Garhwál Division, dated 22nd July, 1878, saying that his Forest Ranger "Parja" had inspected the Rehar forest and found that two portions aggregating about six square miles had been burnt. I have therefore entered six square miles under "failures" in form No. 47 and have informed the Collector accordingly.

Jhansi Forests.—No fresh fires.

Lalitpur Forests.—No fresh fires.

OFFICE OF CONSERVATOR OF FORESTS, N.-W. P.,
Naini Tal, the 6th August, 1878.

G. GREIG,
Conservator of Forests, N.-W. P.

APPENDICES.

APPENDIX A.

Forest Department, North-Western Provinces.

Statement showing approximately the area stocked with Sál, Deodar, and other classes of Forest.

Forest Division.	Classes of Plains' forest.						Classes of Hill forest.						Remarks.
	Sál.	Sisham.	Khair.	Tún.	Mixed forests of inferior kinds of trees.	Total area of Plains' forests.	Deodar.	Chír.	Firs.	Mixed forests of deciduous trees.	Total area of Hill forests.	Grand total area	
	Sq. m.	Sq. m	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	
Naini Tál ...	...	...	...	...	...	...	...	...	...	...	...	...	The areas in respect of the Naini Tal, Garhwál, Bhágirathi, Jhánsi, and Lalitpur Divisions cannot be included in this statement, for they are not yet even approximately known.
Ránikhet ...	...	...	...	...	...	...	...	42	...	25	67	67	
Kumaun ...	337	18	29	2	256	642	...	...	...	...	...	642	
Garhwál ...	...	...	...	...	...	...	...	...	...	...	...	...	
Dehra Dún ...	234	7	14	...	309	564	...	...	...	...	...	564	
Bhágirathi ...	...	...	...	...	...	...	...	...	...	...	...	...	
Jaunsár ...	3	...	...	...	...	3	40	51	48	49	188	191	
Bijnor ...	25	...	...	...	61	86	...	...	...	...	...	86	
Jhánsi ...	...	...	...	...	...	...	...	...	...	...	...	...	
Lalitpur ...	...	...	...	...	...	...	...	...	...	...	...	...	
Total ...	599	25	43	2	626	1,295	40	93	48	74	255	1,550	

Office of Conservator of Forests, N.-W. P.:
Naini Tal, the 6th August, 1878.

G. GREIG,
Conservator of Forests, N.-W. Provinces.

APPENDIX B.

Extract para. 4 of Mr. W. Craw's *Report on the Plantations and Nurseries at Rdnikhet for* 1877-78.

The Pinus gerardiana from Dr. Brandis is germinating remarkably well, but unfortunately a number of the first young tender seedlings just as they appeared above ground were destroyed by hail. There are still many seeds to come through, and when these are all above ground I will report to you the result.

APPENDIX C.

No. 606, dated Botanical Gardens, Saháranpur, the 11th April, 1878.

From—J. F. Duthie, Esq., *Supdt., Govt. Botanical Gardens, N.-W. P.,*

To—Conservator of Forests, N.-W. Provinces and Oudh, Dehra.

Sir,—According to instructions received from Government of the North-Western Provinces and Oudh in their Nos. 1176A., 1233A., and 1520A., dated 23rd and 29th June, and 1st August, 1877, respectively, I have the honour to submit a report on the experimental cultivation of species of eucalyptus and other plants from seed received from Government, North-Western Provinces, and from the office of Inspector-General of Forests of India during the year 1877-78.

Report on the Cultivation of Eucalyptus at Saháranpur.

(1) *Queensland species from seed received in April,* 1877, *from Government, N.-W. Provinces and Oudh.*

Name of plant.	Sown.	Germinated.	Transplanted.	Survived.	Height attained.		Remarks.
					Ft.	in.	
1. Eucalyptus bicolor ...	27th April	Fairly ...	Nov., 1877...	68	3	3	Plants quite healthy.
2. „ globulus ...	Ditto ...	Freely ...	*Nil* ...	1	0	8	Evidently not suited to this climate.
3. „ hæmastoma,	Ditto ...	Poorly ...	...	2	1	5	Plants weak.
4. „ hemiphloia (dark box) ...	Ditto ...	Freely ...	Nov., 1877...	108	1	8	Plants healthy.
5. „ hemiphloia (white box) ...	Ditto ...	Fairly ...	Ditto ...	75	2	9	Ditto.
6. „ longifolia ...	Ditto ...	Freely ...	Ditto ...	13	2	0	The leaves of this species are fulcate.
7. „ melanoxylon,	Ditto ...	Fairly ...	Ditto ...	92	3	10	Plants quite healthy.
8. „ peniculata ...	Ditto ...	Poorly ...	...	13	3	9	Ditto. All in pots.
9. „ siderophloia,	Ditto ...	Fairly ...	Nov., 1877...	11	0	7	Plants weak.
10 „ teresticornis,	Ditto ...	Freely ...	Ditto ...	62	4	0	Plants quite healthy.
11. Syncarpia laurifolia ...	Ditto ...	Poorly ...	...	...	...		Very few germinated; not one survived the great heat of last summer:
12. Eucalyptus resinifera, (E. Saliqua) ...	22nd April, 1877.	Very freely.	Nov., 1877...	850	3	6	Plants healthy. A promising species for this climate.

The measurements were taken on the 30th of March, 1878.

N.B.—The excessive heat of last summer, though injurious to many of the seedlings, was probably of some value in testing the suitableness of the different species for this climate.

Govt. Botanical Garden, Saháranpur:
The 11th April, 1878.

J. F. DUTHIE,
Supdt., Govt. Botanical Gardens, N.-W. P.

(2)—*Received from Government North-Western Provinces and Oudh, through the Forest Department of India, in June.* (*From Queensland*).

Name of plant.	Sown.	Germinated.	Transplanted.	Survived.	Height attained.		Remarks.
					Ft	in.	
1. Eucalyptus bicolor...	11th Oct., 1877,	Freely ...		222	3	6	Plants healthy.
2. „ hæmastoma ...	Ditto ...	Sparingly,		33	1	6	Plants have made little growth, but are healthy.
3. „ hemiphloia (dark box) ...	Ditto ...	Ditto ...		84	2	3	
4. „ siderophloia ...	Ditto ...	Fairly ...		90	0	2	Plants healthy.
5. „ tereticornis ...	Ditto ...	Sparingly,		44	0	3	Ditto.
6. Syncarpia laurifolia,	Ditto ...	Ditto ...		13	0	¾	Seedlings stronger than those from New South Wales.

N.B.—The measurements were taken on the 30th of March, 1878.

(3)—*Received from Government, North-Western Provinces and Oudh, through the Forest Department of India in June,* 1877. (*From New South Wales*).

Name of plant.	Sown.	Germinated.	Transplanted.	Survived.	Height attained.	Remarks.
					In.	
1. Eucalyptus hæmastoma.	11th Oct., 1877,	Sparingly,		25	4	Seedlings more robust than those from Queensland.
2. „ siderophloia,	Ditto ...	Freely ...		145	3	Plants healthy.
3. Syncarpia laurifolia,	Ditto ...	Very sparingly.		2	½	Very delicate and of slow growth up to this time, 30th March, 1878.

N.B.—The measurements were taken on the 30th of March, 1878.

GOVT. BOTL. GARDEN, SAHARANPUR: *The 11th April,* 1878.

J. F. DUTHIE,
Supdt., Govt. Botanical Gardens, N.-W. P.

(4) Seeds of the following species including some additional to those mentioned above, were received during the year; they were sown in November last and are now progressing favourably.

1.—FROM THE DIRECTOR OF THE SIDNEY BOTANICAL GARDEN.

Eucalyptus capilottata.
„ corymbosa.
„ crebra.
„ globulus.
„ hæmastoma,
„ maculata.
„ megacarpa.
„ paniculata.
„ pilularis.
Eucalyptus resinifera.
„ siderophloia.
„ stellutata.
„ stricta.
„ viminalis.
„ virgata.
„ species from Mount Victoria.
Syncarpia laurifolia.

2.—From the Director of the Botanical Gardens at Palermo.

Eucalyptus marginata.

" viminalis.

3.—From Dr. Bonavia, Lucknow.

Eucalyptus resinifera (acclimatized seed).

A circular plantation was formed in December last of 62 plants upwards of two years in age and belonging to four species (E. rostrata, E. coriaceæ, E conacea, and E. marginata). When planted they were from 2 to 5 feet in height. Since then (*i.e.*, in four months) they have increased on an average about one foot; ten however have died.

Trials are being made wtth several of the species at the two hill gardens near Mussoorie, at elevations of about 6,500 feet and 4,000 feet respectively, advantage being taken of what is already known regarding the conditions of the climate and elevations of the native habitats of each.

Cultivation of Prosopis at Saháranpur.

Name of plant.	Sown.	Trans-planted.	Survived.	Height attained.	Sent from.	Remarks.
				′ ″		
1. Prosopis pubescens (Srew Mezquit Bean .	20th June, 1877.	Nov. 1877.	88	0 9	Forest Department of India.	Sown in pots. Seedlings suffered a good deal during hot weather of last year, but are now progressing favourably.
Ditto ...	3rd November, 1877.	...	Hundreds.	0 4	Ditto ...	Sown in beds; still germinating.
Ditto ...	18th July, 1877.	Ditto,	48	...	Kew ...	Sown in pots. Seedlings suffered during last hot weather. The plants are now doing well.
2. Prosopis sp. ...	9th July, 1877.	Ditto,	115	1 3	India Office.	Plants healthy.
3. Prosopis sp (probably) designated as "seed without name received in autumn, 1876, from Dr. Forbes Watson."	24th July, 1877.	Ditto,	552	...	Calcutta ...	Plants strong. A few seeds were sown at the two hill gardens at Mussoorie and Chajoorie, the plants from which are doing well.

N. B.—The measurements were taken on the 30th March, 1878.

Govt. Botl. Garden, Saháranpur: *The 11th April*, 1878.

J. F. DUTHIE,
Supdt., Govt. Botanical Gardens, N.-W. P.

APPENDIX D.

Dated Saháranpur, the 6th July, 1878.

From—J. F. Duthie, Esq., *Supdt., Govt. Botanical Gardens, N.-W. Provinces,*

To—*Conservator of Forests, North-Western Provinces.*

At the request of the Officiating Director of Agriculture and Commerce, North-Western Procinces and Oudh has the honour to forward a report on the condition of the seedlings of the Mesquit of Texas (*Prosopis glandulosa*) now under cultivation at Saháranpur.

Report on the experimental cultivation of Prosopis glandulosa, the Mesquit of Texas.

A SMALL bag of the pods was received from the office of the Director of Agriculture and Commerce, North-Western Provinces and Oudh, in July, 1877.

The seeds were sown in pots, some in that month and rest in September.

About 200 plants germinated.

In November the seedlings were transplanted into the new nursery for economic plants.

The plants lost their leaves during the cold season. Tattis were placed over them to protect them from frost.

There are now 204 plants all in healthy condition and growing fast.

At present the plant appears to be one of straggling habit with trailing branches which are now upwards of 4½ feet long. Some of the specimens, however, are more upright in their growth.

Considering the extremes of heat and cold to which these plants have been subjected, I should imagine that the cultivation of the species could be easily undertaken over a considerable portion of India, and if the good qualities attributed to the plant in its native country can be developed in this, it will form a most valuable addition to the Indian economic plants.

J. F. DUTHIE,
Supdt., Govt. Botani al Gardens, N.-W. P.

APPENDIX E.

No. 72, dated Naini Tal, the 5th July, 1878.

From—C. BAGSHAWE, ESQ., *Dy. Conservator, Jaunsár Forest Division, Chakráta,*
To—*Conservator of Forests, North-Western Provinces.*

SIR,—I have the honour to report the completion of the Thadiar Slide extension, a work sanctioned by G. O. No. 456F.-C., dated 26th September, 1877, which was received with your No. 113, dated 29th September, 1877.

2. The slide was tried on the 28th ultimo, and found to work perfectly. From the 30th ultimo, sleepers have been daily sent down the slide, the average being 800 per diem; as soon as the rains have fairly set in we shall be able to send 1,500 a day down, and we expect to have 65,000 10′-sleepers and 20,000′ 6′-sleepers down the slide by the 15th September next.

3. The length of the old slide is 9,762 feet, that of the extension 3,480 feet, making the total length 13,242 feet. The rise in the new portion of the slide is about 785 feet, and the gradients vary from 1 in 20, where it joins the old slide, to 1 in 3½ 1 in 3¼, and 1 in 2½ in the last 1,800 feet of the slide. The steepest gradient, 1 in 2½, runs for 800 feet of slide, and the sleepers go down this at about 25 miles an hour.

4. The extension has cost, including establishment, &c., Rs. 10,153-11-9, and saves 1½ mile of carriage by road. By an estimate I have just made out, the Thadiar Slide will pay its cost and leave a profit of over Rs. 20,000 when we complete the season's work.

I hope by the end of August to submit a complete report on the Thadiar Slide, showing cost, &c., and accompanied by a plan and section of the slide.

5. As you are aware it was proposed to finish the slide by April, but the snow and winter rains, added to the hard nature of the work, prevented this. The work generally proved very hard, involving cuttings in the solid rock from 2 feet to 29 feet deep and walling and trestles 2 to 33 feet high; there was no way of avoiding the harder portions, the gorge being such a narrow one.

6. In conclusion I would beg to record the hard work done on and deep interest taken in this slide by Mr. Rind, the officer in charge, to whom its completion in time is entirely due.

FORM No. 45.

Forest Department, North-Western Provinces.

Area of Reserved Forests, 1877-78.

Division or Range.	Name of Forest.	Area on 1st April, 1877.		Added during the year.		Excluded or transferred to other heads.		Total on 31st March, 1878.		No. and date of notification of additions and transfers, &c.	Remarks.
		Square miles.	Acres.	Square miles.	Acres.	Square miles.	Acres.	Square miles.	Acres.		
Kumaun Division	Block No. 1 ...	128	...	...	...	...	...	128	...	...	Less than last year's area by 2 square miles and 320 acres; diminution in area caused by omitting acres from calculation, as directed in Government of India, Department of Revenue, Agriculture and Commerce, Circular No. 10F., dated 23rd January, 1878.
	,, 2 ...	37	...	...	...	...	...	37	...	...	
	,, 3 ...	56	...	...	...	...	...	56	...	...	
	,, 4 ...	8	...	...	...	...	...	8	...	...	
	,, 5 ...	103	...	...	...	...	...	103	...	...	
	,, 6 ...	6	...	...	...	...	...	6	...	...	
	,, 7 ...	14	...	...	...	...	...	14	...	...	
	,, 8 ...	230	...	...	...	...	...	230	...	...	
	,, 9 ...	68	...	...	...	...	...	68	...	...	
	,, 10 ...	7	...	...	...	...	...	7	...	...	
	,, 11 ...	7	...	...	...	...	...	7	...	...	
	,, 12 ...	8	...	...	...	...	...	8	...	...	
		672	...	...	...	...	...	672	...	...	
Naini Tal Subdivision,	...	38	...	...	..	..	...	38*	...	...	* This includes about 8 square miles of village lands.
Ranikhet Subdivision.	Block No. 1, Machro ...	...	211	...	...	...	...	...	211	...	
	,, 2, Bhatrong ...	9	...	...	...	...	...	9	...	...	
	,, 3, Tetalikhet ...	7	...	...	...	...	...	7	...	...	
	,, 4, Siun ...	1	...	...	...	...	...	1	...	...	
	,, 5, Bellekh ...	3	...	...	...	...	...	3	...	...	For explanation in diminution in area of 12 acres, see remarks opposite Kumaun division.
	,, 6, Kathalekh,	1	...	...	...	...	...	1	...	...	
	,, 7, Gannyadeoli,	2	...	...	...	...	...	2	...	...	
	,, 8, Karchuli ..	...	203	...	...	...	...	...	203	...	
	,, 9, Chilianao ..	1	...	...	...	...	...	1	...	...	

FORM No. 45.

Forest Department, North-Western Provinces.

Area of Reserved Forests, 1877-78.

Division or Range.	Name of Forest.	*Area on 1st April*, 1877.		*Added during the year.*		*Excluded or transferred to other heads.*		*Total on 31st March*, 1878.		No. and date of notification of additions and transfers, &c.	Remarks.
		Square miles.	Acres.	Square miles.	Acres.	Square miles.	Acres.	Square miles.	Acres.		
Ránikhet Subdivision—(*concluded*).	Block No. 10, Choubatia,	2	...	...	...	...	...	2	...	...	In cases where the area of a block does not exceed half a square mile, the area has been given in acres.
	" 11, Ránikhet...	7	...	...	...	...	...	7	...	...	
	" 12, Padholi ...	1	...	...	...	...	...	1	...	...	
	" 13, Dwarsaoni,	3	...	...	...	...	...	3	...	...	
	" 14, Airadeo ...	26	...	...	...	...	...	26	...	...	
	" 15, Siahi Devi,	3	...	...	...	...	...	3	...	...	
		67	...	...	...	...	...	67	...	...	
Garhwál Division ...	Block No. 1, Patli Dún ...	237	...	...	...	...	...	237	...	...	Diminution in area of 1 square mile and 320 acres caused by omitting acres from calculation, as directed in Government of India, Department of Revenue, Agriculture and Commerce, Circular No. 10F., dated 23rd January, 1878.
	" 2, Kothri Dún,	180	...	...	...	...	...	180	...	...	
	" 3, Saneh ...	17	...	...	...	...	...	17	...	...	
	" 4, Laldhang ...	36	...	...	...	...	...	36	...	...	
	" 5, Khara ...	88	...	...	...	...	...	88	...	...	
		558	...	...	...	...	...	558	...	...	
Dehra Dún Division,	*Sewalik Range.*										
	Western Sewaliks ...	77	...	...	...	...	...	77	...	...	
	Eastern: ditto ...	105	...	...	...	...	...	105	...	...	
	Sewaliks and sub-Sewaliks,	267	...	...	...	...	...	267	...	...	
		449	...	...	...	...	...	449	...	...	
	Majhera	7	...	...	...	...	...	7	...	...	Area less than that of last year's return by 475 acres; see preceding explanation.
	Rámpur Mandi ...	2	...	...	...	...	...	2	...	...	
	Ambari ...	6	...	...	...	...	...	6	...	...	

	Chandpur	3	...	...	...	...	...	3	...	...	
	Dholkote	8	...	...	...	...	...	8	...	...	
	Thano	10	...	...	...	...	...	10	...	...	
	Nagsidh	25	...	...	...	...	...	25	...	...	
	Tirsal ... Tirsal ...	14	...	...	...	...	...	14	...	...	
	Tirsal ... Sainkote ...	14	...	...	...	...	...	14	...	...	
	Saora Saroli Kachar ...	...	237	...	...	...	...	...	237	...	
	Saora Saroli Saora Saroli,	2	...	...	...	...	...	2	...	...	
	Song	1	...	...	...	...	...	1	...	...	
	Patri	22	...	...	...	...	...	22	...	...	
		563	...	...	...	...	...	563	...	...	
	I.—Kalsi Range.										
	Thaina	1	...	...	...	...	...	1	...	...	In cases where the area of a forest does not exceed half a square mile, it has been given in acres.
	Panjgaun	1	...	...	...	...	...	1	...	...	
	Barabagh	1	...	...	...	...	...	1	...	...	
	Amluwa	1	...	...	...	...	...	1	...	...	
	Harripur	1	...	...	...	...	...	1	...	...	
	Khadir	...	320	...	...	...	...	...	320	...	
	Dhaira	1	...	...	...	...	...	1	...	...	
	Moila	1	...	...	...	...	...	1	...	...	
	Rampur Mandi ...	...	...	2*	...	...	...	2*	...	...	Government, North-Western Provinces and Oudh, Public Works Department, No. 89F.C., dated 13th April, 1877.
	Bara Said	...	...	2	...	...	...	2	...	...	
	Mundiwala	...	...	1	...	...	...	1	...	...	
	Daula	...	...	3	...	...	...	3	...	...	
Jaunsár Division ...	Bagsain	...	...	2	...	...	...	2	...	...	
	Loi	...	...	5	...	...	...	5	...	...	
	Karaundi	...	...	7	...	...	...	7	...	...	
		7	...	22	...	...	...	29	...	...	
	II.—Deoban Range.										
	Matkangra	1	...	...	...	...	...	1	...	...	Ditto ditto
	Magad	...	115	...	...	...	...	...	115	...	
	Dharna	1	...	...	...	...	...	1	...	...	
	Jadi	2	...	...	...	...	...	2	...	...	
	Kutniar	...	272	...	...	...	...	...	272	...	
	Asmari	1	...	...	...	...	...	1	...	...	
	Kophti	1	...	...	...	...	...	1	...	...	

FORM No. 45.

Forest Department, North-Western Provinces,

Area of Reserved Forests, 1877-78.

Division or Range.	Name of Forest.	*Area on 1st April*, 1877.		*Added during the year*		*Excluded or transferred to other heads.*		*Total on 31st March*, 1878.		No. and date of notification of additions and transfers, &c.	Remarks.
		Square miles.	Acres.	Square miles.	Acres.	Square miles.	Acres.	Square miles.	Acres.		
	II.—Deoban Range— (concluded).										
	Thona	1	...	...	...	...	...	1	...	...	In cases where the area of a forest does not exceed half a square mile, it has been given in acres.
	Kanjatra	1	...	...	...	...	...	1	...	...	
	Durani	1	...	...	...	...	...	1	...	...	
	Bajamara	1	...	...	...	...	...	1	...	...	
	Hajawa	2	...	...	...	...	...	2	...	...	
	Mohna	2	...	...	...	...	...	2	...	...	
	Pandawa	1	...	...	...	...	...	1	...	...	
		16	...	...	...	...	...	16	...	...	
	III.—Lokandi Range.										
	Singori	...	218	...	...	...	...	...	218	...	
	Kua	...	78	...	...	...	...	...	78	...	
	Kota	...	176	...	...	...	...	...	176	...	
	Koruwa	...	131	...	...	...	...	...	131	...	
	Raula	...	107	...	...	...	...	...	107	...	
	Bandla	...	104	...	...	...	...	...	104	...	
	Moila	2	...	...	...	...	...	2	...	...	
	Inari	1	...	...	...	...	...	1	...	...	
	Bodlar	2	...	...	...	...	...	2	...	...	
	Missan	2	...	...	...	...	...	2	...	...	
	Chatri	2	...	...	...	...	...	2	...	...	
	Kanasar	...	177	...	...	...	...	...	177	...	
	Maranwa	1	...	...	...	...	...	1	...	...	
		12	...	...	...	...	...	12	...	...	

Jaunsár Division—(*continued.*)	*IV.—Karamba Range.*									
	Lenguna	1	...	...	...	...	...	1	...	...
	Konain	1	...	...	...	...	...	1	...	...
	Karali	1	...	...	...	...	...	1	...	...
	Siari	1	...	...	...	...	...	1	...	...
	Gutugadh	1	...	...	...	...	...	1	...	...
	Bhaj-Koti	1	...	...	...	...	...	1	...	...
	Rikta	1	...	...	...	...	...	1	...	...
	Dubyana	1	...	...	...	...	...	1	...	...
	Danda	...	244	...	...	...	...	...	244	...
	Ekra	2	...	...	...	...	...	2	...	...
	Kulered	1	...	...	...	...	...	1	...	...
	Amlakri	1	...	...	...	...	...	1	...	...
	Karamba	3	...	...	...	...	...	3	...	...
	Bagura	3	...	...	...	...	...	3	...	...
	Kerugadh	3	...	...	...	...	...	3	...	...
	Utasna	4	...	...	...	...	...	4	...	...
	Kharsi	1	...	...	...	...	...	1	...	...
	Punaha	1	...	...	...	...	...	1	...	...
	Barasti	2	...	...	...	...	...	2	...	...
	Pani-ki-nal	1	...	...	...	...	...	1	...	...
		30	...	...	...	...	...	30	...	...
	V.—Bawar Range.									
	Banadhar	3	...	...	...	...	...	3	...	...
	Chilar	2	...	...	...	...	...	2	...	...
	Kalaura	2	...	...	...	...	...	2	...	...
	Chaririya Ban ...	2	...	...	...	...	...	2	...	...
	Dabar	1	...	...	...	...	...	1	...	...
	Lakan	2	...	...	...	...	...	2	...	...
	Lakua	1	...	...	...	...	...	1	...	...
	Maura	1	...	...	...	...	...	1	...	...
	Tutwa	1	...	...	...	...	...	1	...	...
	Sangrani	1	...	...	...	...	...	1	...	...
	Lokar	2	...	...	...	...	...	2	...	...
	Jaku	1	...	...	...	..	...	1	...	...
	Piknar	2	...	...	...	...	...	2	...	...
	Bamnai	4	...	..	...	...	...	4	...	...
	Majhira	2	...	...	...	...	...	2	...	...

FORM No. 45.

Forest Department, North-Western Provinces.

Area of Reserved Forests, 1877-78.

Division or Range.	Name of Forest.	*Area on 1st April*, 1877.		*Added during the year.*		*Excluded or transferred to other heads.*		*Total on 31st March*, 1878.		No. and date of notification of additions and transfers, &c.	Remarks.
		Square miles.	Acres.	Square miles.	Acres.	Square miles.	Acres.	Square miles.	Acres.		
	V.—Bawar Range—(concld).										
	Harianta	2	...	...	...	...	...	2	...	...	In cases where the area of forest does not exceed half a square mile, it has been given in acres.
	Katian	1	...	...	...	...	...	1	...	...	
	Jakni Lani	1	...	...	...	...	...	1	...	...	
	Kanun	4	...	...	...	...	...	4	...	...	
	Dhanras	3	...	...	...	...	...	3	...	...	
	Onol	3	...	...	...	...	...	3	...	...	
	Chatra	4	...	...	...	...	...	4	...	...	
	Molta	2	...	...	...	...	...	2	...	...	
	Konigadh	4	...	...	...	...	...	4	...	...	
	Ringali	6	...	...	...	...	...	6	...	...	
	Malon	2	...	...	...	...	...	2	...	...	
	Ohera	2	...	...	...	...	...	2	...	...	
	Ninus	1	...	...	...	...	...	1	...	...	
	Sangared	1	...	...	...	...	...	1	...	...	
	Koti	...	90	...	...	...	...	...	90	...	
	Panch Kotighar ...	2	...	...	...	...	...	2	...	...	
	Bastar	1	...	...	...	...	...	1	...	...	
	Tuni	...	163	...	...	...	...	...	163	...	
	Rangwar	...	160	...	...	...	...	...	160	...	
		67	...	...	...	...	...	67	...	...	
	VI.—Deogar Range.										
	Bhatar	...	168	...	...	...	...	...	168	...	
	Chachpur	2	...	...	...	...	...	2	...	...	

Jaunsár Division—(*continued*).	Bandpur	2	...	...	...	...	...	2	...	...	
	Kathang	1	...	...	...	...	...	1	...	...	
	Majog	1	...	...	...	...	...	1	...	...	
	Roigi	1	...	...	...	...	...	1	...	...	
	Chandnigadh ...	1	...	...	...	...	...	1	...	...	
	Mandhal	1	...	...	...	...	...	1	...	...	
	Gulaun	...	280	...	...	...	...	...	280	...	
	Pashrar	1	...	...	...	...	...	1	...	...	
	Lambi dhar ...	1	...	...	...	...	...	1	...	...	
	Chumba	1	...	...	...	...	...	1	...	...	
	Morutach	2	...	...	...	...	...	2	...	...	
	Burach	2	...	...	...	...	...	2	...	...	
	Sitki	1	...	...	...	...	...	1	...	...	
	Dadu	1	...	...	...	...	...	1	...	...	
	Inadi	...	...	1	...	...	...	1	...	...	
	Lohasu	...	...	...	264	...	...	...	264	...	
	Chakora	...	...	...	294	...	...	...	294	...	
	Garasna	...	...	1	...	...	...	1	...	...	
	Bunar Pani... ...	...	...	...	232	...	...	...	232	...	
	Nonitach	...	...	...	170	...	...	...	170	...	
	Ghoria	...	...	1	..	..	...	1	...	...	
	Dhamti	...	...	1	...	...	...	1	...	...	
	Thanwar	...	...	1	...	...	...	1	...	...	
	Kandar	...	...	...	38	...	...	...	38	...	
		19	...	7	...	...	...	26	...	...	See remarks on preceding page.
	VII.—Deota Range.										
	Thadiar	...	...	...	46	...	...	...	46	...	
	Partil	...	..	2	...	...	...	2	...	...	
	Temple	...	...	1	...	...	...	1	...	...	
	Dopta	...	...	...	300	...	...	...	300	...	
	Katatach	...	...	1	...	...	...	1	...	...	
	Jaurasi	...	...	1	...	...	...	1	...	...	
	Kangra	...	...	1	...	...	...	1	...	...	
	Patangra	...	...	1	...	...	...	1	...	...	
	Kimari	...	...	2	...	...	...	2	...	...	
	Bagiar	...	...	...	69	...	...	...	69	...	
	Bamsu	...	...	3	...	...	...	3	...	...	
		...	...	13	...	...	...	13	...	...	

FORM No. 45.

Forest Department, North-Western Provinces.

Area of Reserved Forests, 1877-78.

Division or Range.	Name of Forest.	*Area on 1st April, 1877.*		*Added during the year.*		*Excluded or transferred to other heads.*		*Total on 31st March, 1878.*		No. and date of notification of additions, and transfers, &c.	Remarks.
		Square miles.	Acres.	Square miles.	Acres.	Square miles.	Acres.	Square miles.	Acres.		
	VIII.—Jaunsár Range.										
Jaunsár Division—(*concluded*).	Atgaon Chandan ...	...	44	...	...	...	...	...	44	...	
	Maletha	...	3	...	...	...	...	...	3	...	
	Phirtar	...	38	...	...	...	...	...	38	...	
	Lakwar	...	73	...	...	...	...	...	73	...	
	Bailar	...	43	...	...	...	...	...	43	...	
		...	201	...	...	...	...	...	201	...	
	Total Area, Jaunsár Divn.,	151	...	42	...	...	...	193	...	...	
Bhágirathi Division,	...	...	...	...	...	...	...	...	...	...	Transferred to the Oudh Forest Department.
Gorakhpur ditto	Gorakhpur Forests ...	115	...	...	...	115	...	...	...	...	
Bareilly ditto	Bareilly Ditto ...	137	...	...	...	137	...	...	...	...	
Bijnor ditto	Chandi	62	...	...	...	...	...	62	...	...	Explanation given opposite preceding divisions will account for difference between this and last year's returns.
	Rehar	25	...	...	...	...	...	25	...	...	
		87	...	...	...	...	...	87	...	...	

Jhánsi ditto ...	Jhánsi	37	...	...	...	...	...	37	...	...	Acres less than half a mile omitted. See preceding explanation.
Lalitpur ditto ...	Lalitpur	145	...	...	...	...	...	145	..	...	
	Total Area of Reserved Forests in the N.-W. P.	2,570	...	42	...	252	...	2,360	...	...	

FORM No. 45.

Area of Unreserved Forests, 1877-78.

Kumaun Division ...	...	...	...	...	...	...	...	...	...	...	Difference in area of 51 acres between this and last year's statement caused by omitting the 51 acres in compliance with Government of India, Department of Revenue, Agriculture and Commerce, Circular No. 10F., dated 23rd January, 1878.
Naini Tal Subdivision	...	...	...	...	...	...	...	...	...	...	
Ránikhet ditto ...	...	...	...	...	...	...	...	...	...	...	
Garhwál Division ...	...	...	...	...	...	..	...	...	...	...	
Dehra Dún ditto ...	...	...	...	...	...	...	...	...	...	...	
Jaunsár ditto ...	...	...	...	...	...	...	...	...	...	...	
Bhagirathi ditto ...	...	...	...	...	...	...	...	...	...	...	
Jhánsi ditto ...	...	...	...	...	...	...	...	...	...	...	
Lalitpur ditto ...	...	...	...	...	...	...	...	...	...	...	
Bijnor ditto ...	...	9	...	...	...	...	...	9	...	...	
	Total ...	9	...	...	...	...	...	9	...	...	

NAINI TAL:

The 6th August, 1878.

G. GREIG,

Conservator of Forests, N.-W. Provinces.

FORM No. 46.

Forest Department, North-Western Provinces.

Area of Plantations, 1877-78.

Division.	Name of Plantation.	On 1st April, 1877.		During 1877-78.		On 31st March, 1878.		Remarks.
		Area.	Total cost.	Area added.	Cost.	Total area.	Total cost.	
		Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	
Kumaun Division ...	...	...	...	...	...	...	...	The half acre shown in last year's statement omitted in compliance with Government of India, Department of Revenue, Agriculture and Commerce, Circular No 1 F., dated 23rd January, 1878.
Ránikhet Subdivision ...	Jakhdeo (upper) ... ... Ditto (lower) ... ... Garkhet ... ... Janoli ... ... Darimkhet ... ... Ghingarúkhál	367	10,144	*Nil.*	*1,160	367	11,304	* Part of expenditure under head A VIII. (*f.*)
Naini Tal ditto ...	China Pahár Deopathar Ayarpathar } Oaks ... ... Jokiya Laria Kanta	13	63	*Nil.*	6	13	69	
	Jabar ... { Deodar nursery ...	...	14	...	3	...	17	Area is only ·02 acres.
	Jabar ... { Deodar ...	30	596	...	1	30	597	
	China, deodar	...	...	4	77	4	77	
	Kiladhunga, deodar	...	...	2	38	2	38	
	Total ...	43	673	6	125	49	798	

Garhwál Division ...	Boxar	47	497	*Nil.*	...	†...	497	† Failed.
Dehra Dún ditto ...	Dehra Dún	1	97	*Nil.*	...	1	97	
	Landour	Unknown	505	Unknown	‡100	...	605	‡ From Cantonment funds.
	Saháranpur	16	41	...	...	16	41	
	Total ...	17	643	...	100	17	743	
Jaunsár Division.								
Deogar Range... ...	Mandhol, Deodar	11	394	...	...	11	394	
Bawar ditto	Katian ditto	229	2,406	...	...	229	2,406	
Karamba ditto	Kanain ditto	88	1,758	...	103	95	1,861	
Lokandi	Kanasur, mixed	139	1,365	...	...	139	1,365	
Ditto ditto	Bodiar	350	2,123	5	184	355	2,307	
Ditto ditto	Koruwa	15	132	...	...	15	132	
Deoban ditto	Mohna or Deothat	143	1,243	...	26	143	1,269	
Ditto	Matkangra...	51	577	...	15	51	592	
Ditto	Thonu	4	705	...	...	4	705	
	Miscellaneous charges, including cost of areas which have failed.	...	1,865	...	154	...	2,019	
	Total ...	1,030	12,568	12	482	1,042	13,050	
Bhágirathi Division ...	...	...	...	...	...	...	...	
Gorakhpur ditto ...	Ramgarh and Sonari	245	4,311	...	...	§...	§...	§ The Gorakhpur forests were transferred in June, 1877, to the Oudh Forest Department.
Jhánsi ditto ...	Sukhwan Dukhwan	181	50	...	...	181	50	
Lalitpur ditto ...	...	...	...	...	...	...	...	
Bijnor ditto ...	...	...	...	...	...	...	...	
	Total ...	1,930	28,886	18	1,867	1,656	26,442	

NAINI TAL:
The 6th August, 1878.

G. GREIG,
Conservator of Forests, N.-W. Provinces.

FORM No. 47.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES.

Area of Forest tracts protected from fire during the dry season of 1878 (*to accompany report*, 1877-78).

Division.	Forest tracts.	*Up to 30th June, 1877.* Area actually protected.	*Up to 30th June, 1877.* Total cost.	*During dry season of 1878.* Area attempted to be protected.	*During dry season of 1878.* Failures.	*During dry season of 1878.* Actually protected.	*During dry season of 1878.* Amount expended.	*During dry season of 1878.* Total cost up to 30th June, 1878.	Year when protection commenced.	REMARKS.
		Acres.	Rs. a. p.	Acres.	Acres.	Acres.	Rs. a. p.	Rs. a. p.		
Kumaun ...	Details omitted in compliance with para. 5 of Government of India, Department of Revenue, Agriculture and Commerce, No 26F., dated 11th January, 1878.	75,300	10,200 0 0	90,062	2,527	87,535	7,525 0 0	17,725 0 0	1873	
Naini Tal Subdivision ...		19,200	664 0 0	19,200	395	18,805	458 0 0	1,122 0 0	1876	
Ránikhet ditto ...		4,800	440 0 0	5,440	640	4,800	244 0 0	684 0 0	1874	
Garhwál ...		15,075	6,601 0 0	48,403	8,064	40,339	3,554 0 0	10,155 0 0	1873	
Debra Dún ...		17,018	5,105 0 0	17,254	3,240	14,014	2,136 0 0	7,241 0 0	1872	
Jaunsár ...		58,736	1,308 0 0	62,896	...	62,896	601 0 0	1,909 0 0	1872	
Bhagirathi ...		19,967	...	*Not known.	*Not known.	*Not known	32 0 0	32 0 0	1876	* The Deputy Conservator has not given the information; see para. 20 of the report.
Jhánsi ...		826	355 0 0	1,126	...	1,126	120 0 0	475 0 0	1874	
Lalitpur ...		1,749	224 0 0	1,749	...	1,749	95 0 0	319 0 0	1875	
Bijnor ...		15,719	...	15,719	3,840	11,879	...	...	1875	
Total ...		228,390	24,897 0 0	261,849	18,706	243,143	14,765 0 0	39,662 0 0		
				Charged in previous years			...	24,764 0 0	†	† See return 47 for 1876-77.
				„ 1877-78			...	12,332 0 0	‡	‡ See abstract of expenditure for 1877-78, head A. VIII. (*e*), Rs. 1,121 of the total being included in the amount "charged in previous years."
				„ 1878-79			...	2,566 0 0	§	§ See amounts under head A. VIII. *e* in abstract of expenditure for April, May, and June, 1878.
						Total	...	39,662 0 0		

NAINI TAL:
The 6th August, 1878.

G. GREIG,
Conservator of Forests, N.-W. Provinces.

FORM No. 48.

Forest Department, North-Western Provinces.

Prosecutions for breaches of Forest Rules, 1877-78.

Forest Division and Civil District.	*Injury to forests by fire.*		*Unauthorized felling or appropriation of wood and minor forest produce.*		*Grazing without permission or in tracts in which grazing is prohibited.*		*Other offences.*		Total.				Remarks.
									Prosecutions.		*Convictions.*		
	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
1. Kumaun Division ... ... / Kumaun District	3	3	33	92	11	27	110	144	157	266	141	196	
2. Naini Tal Subdivision ... ... / Kumaun District	...	...	...	...	...	...	2	5	2	5	2	2	One case tried by Forest Officer and one case by Assistant Commissioner, Naini Tal.
3. Ránikhét Subdivision ... ... / Kumaun District	1	1	41	105	1	6	6	7	49	119	41	100	
4. Garhwál Division ... ... / Garhwál District	2	3	34	62	...	...	26	34	62	99	47	79	
5. Dehra Dún Division ... ... / Meerut District	...	...	16	46	...	...	...	...	16	46	10	18	
6. Jaunsár Division ... ... / Meerut District	1	2	11	17	5	10	8	21	25	50	23	37	
7. Bhagirathi Division ... ... / Native Garhwál	1	1	4	6	1	1	2	2	8*	10	5	7	* Of these 6 cases were tried by His Highness the Rája of Tehri and 2 by the Magistrate of Bijnor.
8. Jhánsi Division ... ... / Jhánsi District	...	...	12	14	...	...	...	...	12	14	11	12	
9. Lalitpur Division ... ... / Lalitpur District	...	...	8	14	...	...	...	...	8	14	7	12	
10. Bijnor Division ... ... / Rohilkhand District	...	...	1	2	2	9	3	5	6	16	6	16	
Total ...	8	10	160	358	20	53	157	218	345	639	293	479	

Naini Tal:
The 6th August, 1878.

G. GREIG,
Conservator of Forests, N.-W. Provinces.

FORM

FOREST DEPARTMENT

Summary of Revenue of

BUDGET HEADS RECEIPTS.	Direction.	Naini Tal Subdivision.	Kumaun Division.	Ránikhet Subdivision.	Garhwál Division.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY:—					
a. Timber	...	...	92,327 8 8	...	87,856 5 8
b. Firewood and charcoal,	...	5,181 1 9	...	...	...
c. Bamboos	...	...	...	...	84 0 0
d. Sandal-wood	...	...	...	...	...
e. Grass and other minor produce.	...	...			..
II.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS:—					
a. Timber	...	4,997 9 0	50,044 4 3	4,651 7 0	28,838 15 1
b. Firewood and charcoal,	...	4,425 9 6	3,664 6 8	6,941 13 1	548 13 10
c. Bamboos	...	...	12,047 8 11	...	47,295 5 9
d. Grazing and fodder grass.	...	169 11 0	8,392 2 10	394 12 0	3,782 7 3
e. Other minor produce ...	...	307 9 6	11,447 14 5	87 3 0	4,310 11 8
III.—CONFISCATED, DRIFT, AND WAIF WOOD.	...	...	587 6 5	...	403 8 6
IV.—REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT:—					
a. Duty on Foreign timber and other forest produce.	...	...	...	...	...
b. Revenue from shared and private forests.	...	...	...	...	...
V.—MISCELLANEOUS:—					
a. Fines and forfeitures ...	...	203 13 9	811 7 6	227 0 0	147 0 1
b. Refunds	1 0 0	...	0 13 3	...	70 7 7
c. Other sources ...	...	...	40 14 1	580 7 0	10 0 0
Total Receipts ...	1 0 0	15,285 6 6	1,79,364 7 0	12,882 10 1	1,73,347 11 5

N. B.—The original copy of this form was sent to the

NAINI TAL:
The 6th August, 1878.

No. 49.

NORTH-WESTERN PROVINCES.

the different Divisions, 1877-78.

Dehra Dún Division.	Jaunsár Division.	Bhagirathi Division.	Jhánsi Division.	Lalitpur Division.	Bijnor Division.	Total.
Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
11,994 3 3	1,75,074 9 5	1,14,569 12 0	108 9 4	42 7 0	192 3 1	4,82,165 10 5
...	24,137 7 0	985 1 8	411 3 8	...	...	30,714 14 1
...	...	...	33 9 5	496 4 5½	...	613 13 10½
...	...	...	...	...	...	...
...	301 0 0	...	848 8 2	...	...	1,149 8 2
10,040 0 10	86 12 5	130 5 6	17 0 0	242 15 0	...	99,049 5 1
9,132 2 11	751 1 1	...	53 10 3	44 3 7½	5,000 0 0	30,561 12 11½
10,904 5 2	97 9 10	...	2 0 0	1,266 4 1[illegible]	...	71,613 2 7
24,957 11 3	2,422 5 7	...	1,265 13 5	936 10 0	90 0 0	42,411 9 4
8,905 7 1	474 9 9	3 0 0	578 15 1	1,055 9 5	3,227 5 6	30,398 5 5
147 14 0	11 12 0	554 3 9	...	0 2 0	870 5 0	2,575 3 8
...	...	...	...	...	...	...
...	...	...	...	...	...	...
409 4 3	46 10 6	69 0 0	...	...	137 0 0	2,051 4 1
728 5 11	255 15 8	4,802 2 9	...	132 13 3	11 8 0	6,003 2 5
1 8 0	198 0 0	15 4 0	...	...	2 9 0	848 10 1
77,220 14 8	2,03,857 13 3	1,21,128 13 8	3,319 5 4	4,217 5 8	9,530 14 7	8,00,156 6 2

Comptroller-General for audit on the 22nd June, 1878.

G. GREIG,

Conservator of Forests, N.-W. Provinces.

FORM

FOREST DEPARTMENT,

Summary of Expenditure of

BUDGET HEADS. A.—CONSERVANCY AND WORKS.	Direction.	Naini Tal Subdivision.	Kumaun Division.	Ránikhet Subdivision.	Garhwál Division.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY :—					
a. Timber ...	...	...	23,951 5 1	...	17,902 5 4
b. Firewood and charcoal,	...	3,149 15 3	...	50 0 0	...
c. Bamboos ...	...	...	...	...	46 14 0
d. Sandal-wood ...	...	...	...	...	...
e. Grass and other minor produce.	...	...	...	...	...
II.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS AT CONSUMERS OR PURCHASERS.	...	119 12 6	9,555 5 6	...	7,893 13 6
III.—CONFISCATED DRIFT, AND WAIF WOOD.	...	...	...	...	18 0 0
IV.—REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT :—					
a. Duty on foreign timber and other forest produce.	...	...	...	...	...
b. Revenue from shared and private forests.	...	...	...	...	...
V.—RENT OF LEASED FORESTS AND PAYMENTS TO SHAREHOLDERS IN FORESTS MANAGED BY GOVERNMENT.	...	...	...	...	...
IV.—LIVE AND DEAD STOCK :—					
a. Purchase of cattle ...	...	...	...	...	...
b. Feed and keep of cattle,	...	...	1,478 7 6	...	1,086 14 5
c. Plant, tools, and instruments.	...	59 1 3	353 5 1	1,447 0 0	465 6 0
VII.—COMMUNICATIONS AND BUILDINGS :—					
a. Roads and bridges ...	...	239 5 0	9,020 1 2	103 6 1	6,663 12 4
b. Buildings ...	88 0 11	50 0 0	1,735 10 2	297 10 7	368 5 11
c. Other works ...	...	...	...	...	34 0 0
VIII.—DEMARCATION, IMPROVEMENT, AND EXTENSION OF FORESTS :—					
a. Demarcation ...	...	1,900 9 7	214 5 11	12 4 0	86 14 0
b. Compensation for land and rights	...	439 7 3	...	12 0 0	...
c. Surveys and working plans.	...	203 9 10	10 0 0	...	234 2 4
d. Plantations ...	...	..	46 6 10	1,372 5 9	...
e. Protection from fire,	...	306 15 6	7,325 9 7	121 13 6	2,893 6 7
f. Other works ...	...	738 10 6	57 4 7	1,947 3 8	...
IX.—MISCELLANEOUS :—					
a. Refunds ...	...	7 15 0	...	...	...
b. Law charges ...	...	5 10 6	...	...	...
c. Other charges ...	505 2 6	12 3 6	304 4 8	20 0 0	285 13 0
TOTAL A.—CONSERVANCY AND WORKS.	593 3 5	7,233 3 8	54,052 2 1	5,383 11 7	37,969 11 5

N. B.—The original copy of this form was sent to

No. 49.

NORTH-WESTERN PROVINCES.

the different Divisions, 1877-78.

Dehra Dún Division.	Jaunsár Division.	Bhagirathi Division.	Jhánsi Division.	Lalitpur Division.	Bijnor Division.	Total.
Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
8,059 7 0	1,46,384 3 8	37,067 2 11	30 10 0	18 0 6	74 8 5	2,33,437 10 11
...	29,840 3 0	395 0 0	317 11 7	...	...	33,752 13 10
...	...	...	0 6 0	122 0 2	..	169 4 2
...	...	...	...	...	...	...
...	...	...	435 11 6	...	...	435 11 6
2,243 13 8	...	...	...	150 15 6	124 3 6	20,088 0 2
48 13 6	...	77 0 5	...	...	151 10 5	295 8 4
...	...	...	...	...	...	...
...	...	...	...	...	...	...
351 0 0	...	10,032 0 0	...	...	...	10,383 0 0
...	...	...	...	130 0 0	...	130 0 0
4,364 8 1	499 1 4	50 13 3	...	174 2 1	...	7,653 14 8
446 8 11	495 4 0	44 11 0	...	219 7 9	...	3,530 12 0
772 12 3	14,645 11 6	697 12 7	65 0 0	...	400 0 0	32,607 12 11
331 10 0	539 14 2	1 1 0	30 8 6	...	...	3,142 13 3
...	1 12 0	...	...	...	...	35 12 0
256 11 6	274 10 0	...	...	...	...	2,745 7 0
...	14 0 0	...	171 0 0	...	...	636 2 3
...	177 11 6	...	...	...	...	615 7 8
...	54 6 4	...	...	...	...	1,473 2 11
2,138 10 2	414 1 1	32 0 0	120 0 0	100 0 0	...	13,452 8 5
1,819 7 9	3,407 11 0	...	56 6 6	119 1 0	...	8,145 13 0
...	...	...	...	8 0 0	...	15 15 0
3 12 0	3 8 0	...	...	...	...	12 14 6
351 10 2	703 8 5	...	...	...	...	2,182 10 3
21,188 13 0	1,97,405 10 0	48,397 9 2	1,227 6 1	1,041 11 0	750 6 4	3,75,243 7 0

the Comptroller-General for audit on the 22nd June, 1878.

FORM

FOREST DEPARTMENT,

Summary of Expenditure of

BUDGET HEADS. B.—ESTABLISHMENT.	Direction.	Naini Tal Subdivision.	Kumaun Division.	Ránikhet Division.	Garhwál Division.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—SALARIES :—					
a. Conservators ...	12,000 0 0	...	...	...	...
b. Superior officers ...	5,400 0 0	...	7,350 0 0	7,059 10 10	9,209 10 10
c. Subordinate forest and depôt establishments.	...	1,058 3 7	6,019 14 4	2,602 12 11	5,479 11 4
d. Office establishments ...	6,617 0 6	190 0 0	1,633 0 0	175 0 0	1,503 0 0
e. Deputation and special allowances.	...	...	3,000 0 0	1,800 0 0	...
II.—TRAVELLING ALLOWANCES :—					
a. Conservators ...	1,897 4 0	...	...	...	...
b. Superior officers ...	484 0 0	976 0 0	1,652 4 0	716 0 0	1,940 9 0
c. Subordinate forest and depôt establishments.	...	...	...	14 6 4	73 10 3
d. Office establishments ...	761 2 3	8 3 1	318 11 8	28 13 3	320 5 1
III.—CONTINGENCIES :—					
a. Stationery ...	35 14 6	31 9 0	343 11 6	49 6 0	234 7 10
b. Carriage of tents and records.	602 15 2	135 1 8	328 14 2	193 1 0	348 4 3
c. Pay of police guards ...	372 0 0	...	...	...	...
d. Sundries ...	579 6 5	10 4 0	335 13 8	22 0 1	295 4 11
e. Official postage ...	273 8 0	5 1 0	167 15 0	37 9 6	75 1 6
Total B.—Establishments ...	29,023 2 10	2,414 6 4	21,150 4 4	12,698 11 11	19,480 1 0
Grand Total of Expenditure ...	29,616 6 3	9,647 10 0	75,202 6 5	18,082 7 6	57,449 12 5

N.B.—The original copy of this form was sent

NAINI TAL :
The 6th August, 1878.

No. 49.

NORTH-WESTERN PROVINCES.

the different Divisions, 1877-78.

Dehra Dún Division.	Jaunsár Division.	Bhagirathi Division.	Jhánsi Division.	Lalitpur Division.	Bijnor Division.	Arrear transactions of October, 1865.	Total.
Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
...	...	...	...	...	...	...	12,000 0 0
17,923 5 4	11,250 0 0	4,900 0 0	...	...	...	...	63,092 11 0
4,642 3 9	2,901 0 0	1,438 1 3	1,060 0 0	1,396 9 11	358 10 8	192 0 0	27,149 3 9
1,885 15 6	1,274 0 0	872 6 9	...	...	408 0 0	...	14,558 6 0
...	...	...	...	...	...	...	4,800 0 0
...	...	...	...	...	...	...	1,897 4 0
2,685 10 8	3,885 14 0	1,059 12 0	...	...	...	436 10 0	13,836 11 8
...	...	...	...	...	...	...	88 0 7
64 12 10	500 4 7	211 8 9	...	...	...	...	2,213 13 6
679 2 6	62 9 6	20 12 0	4 8 0	20 7 0	3 0 0	...	1,485 7 10
204 8 0	526 4 0	221 11 3	...	...	...	...	2,560 11 6
...	150 0 0	...	...	...	...	...	522 0 0
286 7 11	202 6 6	247 14 11	14 12 0	...	10 13 6	1 0 0	2,006 3 11
58 13 6	109 13 0	38 11 0	32 3 0	36 3 0	5 0 0	...	839 14 6
28,431 0 0	20.862 3 7	9,010 13 11	1,111 7 0	1,453 3 11	785 8 2	629 10 0	1,47,050 9 0
49,619 13 0	2,18,267 13 7	57,408 7 1	2,338 13 1	2,494 14 11	1,535 14 6	629 10 0	5,22,294 0 0

to the Comptroller-General for audit on the 22nd June, 1878.

G. GREIG,

Conservator of Forests, N.-W. Provinces.

FORM No. 50.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES.

Account Current for the year 1877-78.

Dr.

	Heads of Account.	Rs. a. p.	Rs. a. p.
	To Cash Balance on 1st April, 1877 ...	51,238 11 10	*51,238 11 10
To Revenue received in cash.	Direction Division ...	1 0 0	
	Naini Tal Subdivision,	10,104 4 9	
	Ránikhet ditto ...	2,995 15 0	
	Kumaun Division ...	1,59,883 0 4	
	Garhwál ditto ...	1,49,828 1 5	
	Dehra Dún ditto ...	76,277 13 10	
	Jaunsár ditto ...	22,064 15 5	
	Bhagirathi ditto ...	5,629 4 0	
	Jhansi ditto ...	2,569 5 4	
	Lalitpur ditto ...	4,217 5 8	
	Bijnor ditto ...	4,530 14 7	4,38,102 0 4
To Revenue adjusted by Book Transfer.	Public Works Department ...	3,27,700 2 2	
	Military Department, Bengal ...	34,322 3 8	
	Telegraph Department,	32 0 0	3,62,054 5 10
	Remittances from State Treasuries.		
	Direction Division ...	30,018 14 6	
	Naini Tal Sub-division,	10,032 4 6	
	Ranikhet ditto ...	17,626 15 9	
	Kumaun Division ...	68,230 0 0	
	Garhwál ditto ...	58,849 0 0	
	Dehra Dún ditto ...	46,750 0 0	
	Jaunsár ditto ...	2,28,955 0 0	
	Bhágirathi ditto ...	60,716 11 0	
	Jhansi ditto ...	2,605 5 10	

Cr.

Heads of Account.	A. Rs. a. p.		B. Rs. a. p.	Rs. a. p.	Rs. a. p.
By Expenditure of the Department.					
Direction Division ...	593 3 5	+	29,023 2 10	29,516 6 3	
Naini Tal Subdivision ...	7,233 3 8	+	2,414 6 4	9,647 10 0	
Ránikhet ditto ...	7,383 11 7	+	12,698 11 11	18,082 7 6	
Kumaun Division ...	54,052 2 1	+	21,150 4 4	75,202 6 5	
Garhwál ditto ...	37,969 11 5	+	19,480 1 0	57,449 12 5	
Dehra Dún ditto ...	21,188 13 0	+	28,431 0 0	49,619 13 0	
Jaunsár ditto ...	1,97,405 10 0	+	20,862 3 7	18,267 13 7	
Bhagirathi ditto ...	48,397 9 2	+	9,010 13 11	57,408 7 1	
Jhánsi ditto ...	1,227 6 1	+	1,111 7 0	2,338 13 1	
Lalitpur ditto ...	1,041 11 0	+	1,453 3 11	2,494 14 11	
Bijnor ditto ...	750 6 4	+	785 8 2	1,535 14 6	
	3,75,243 7 9	+	1,46,420 15 0	5,21,664 6 9	
Arrear transactions of October, 1865 ...			629 10 0	629 10 0	
				5,22,294 0 9	5,22,294 0 9
By Revenue Remittances to State Treasuries.					
Direction Division ...				†464 8 0	
Naini Tal Subdivision ..				10,128 12 9	
Ránikhet ditto ...				3,032 15 0	
Kumaun Division ...				†1,61,146 4 5	
Garhwál ditto ..				†1,56,626 7 0	
Dehra Dún ditto ...				79,360 3 3	
Jaunsár ditto ...				22,510 13 7	
Bhagirathi ditto ...				5,630 4 0	
Jhánsi ditto ...				2,835 14 1	
Lalitpur ditto ...				4,232 13 11	

To Remittances by transfer from other Departments.	Lalitpur ditto ...	2,726 8 11	
	Bijnor ditto ...	1,985 14 6	5,28,496 11 0
	Public Works Department.	7,566 6 4	
	Military Department...		
	Civil Department, Government of India.	4,285 6 10	
		125 10 6	11,777 7 8
To Contributions to Funds.	U. S F. P. Fund ...	555 6 0	
	Military Fund ...	108 0 0	
	Orphan Fund ...	105 0 0	768 6 0
To Advances recovered ...		2,74,057 14 5	2,74,057 14 5
„ *Inter-divisional transfers*—			
Ránikhet Subdivision from Direction Division.		362 14 6	
Kumaun Division from Direction Division.		589 2 2	
Jaunsár Division from Ránikhet Subdivision.		350 0 0	1,302 0 8
Permanent Advances (Direction Division).		50 0 0	50 0 0
Arrear transactions of October, 1865, adjusted during February, 1878.			
Cash remittance from Gorakhpur treasury.		629 10 0	629 10 0
Total ...		...	16,68,477 3 9

Bijnor ditto	4,530 14 7	4,50,499 14 7
By Revenue adjusted by book transfer	3,62,054 5 10	3,62,054 5 10
„ Advances recoverable	2,97,492 3 1	2,97,492 3 1
„ Deposits repaid, Naini Tal Subdivision	6 0 0	6 0 0
„ Permanent advances, Direction Division	50 0 0	50 0 0
Inter-divisional transfers.		
Direction Division to Kumaun Division	589 2 2	
Ditto to Ránikhet Subdivision	362 14 6	
Ránikhet Subdivision to Jaunsár Division	350 0 0	1,302 0 8
By Provincial Services		
Direction Division	73 0 0	
Kumaun ditto	9 0 0	
Garhwál ditto	8 0 0	
Jaunsár ditto	1 8 0	91 8 0
By Cash balances on 31st March, 1878.		
Direction Division	77 10 1	
Ránikhet Subdivision	58 13 2	
Naini Tal ditto	184 10 7	
Kumaun Division	9,858 11 5	
Garhwál ditto	15,394 8 7	
Dehra Dùn ditto	3,217 8 10	
Jaunsár ditto	5,016 3 5	
Bhagirathi ditto	884 0 9	34,687 2 10
Total	...	16,68,477 3 9

The Gorakhpur cash balance has been omitted, that Division having been transferred to Oudh. | † Include Fund contributions.

N.B.—The original copy of this Form was forwarded to the Comptroller-General for audit on the 22nd June, 1878.

NAINI TAL:
The 6th August, 1878.

G. GREIG,
Conservator of Forests, N.-W. Provinces.

FORM No. 51.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES.

Statement of Outstandings and Liabilities on account of Contractors, 1877-78.

Division.	Department Debtor.			Department Creditor.			Balance Due.		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (outstandings).	By Department (liabilities).	
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Direction ..	...	...	...	...*	...	...	...	...	* The balance of Rs 555 of last year has been transferred to Form No. 51 (Disburser's statement).
Kumaun ...	..	10,434 7 3	10,434 7 3	3,105 0 0	7,329 7 3	10,434 7 3	...	...	
Naini Tal Subdivision,	6 0 0	4,684 6 3	4,690 6 3	225 2 0	4,975 10 2	5,200 12 2	510 5 11	...	
Ránikhet ditto ...	...	...	...	...	...	...	...	...	
Garhwal ...	...†	14,987 14 2	14,987 14 2	7,121 7 0	8,874 7 2	15,995 14 2	1,008 0 0	...	† The balance of last year, *viz*, Rs. 501-12-9 being a liability on account of a deposit for timber, has been omitted from this statement.
Dehra Dún ...	3,000 0 0	...	3,000 0 0	..	3,000 0 0	3,000 0 0	...	...	
Jaunsár ...	4,455 10 0	38,099 8 0	42,555 2 0	2,099 12 8	49,360 13 9	51,460 10 5	8,905 8 5	...	
Bhágirathi ...	...	91,945 4 9	91,945 4 9	55,298 14 9‡	40,589 2 0	95,888 0 9	3,942 12 0	...	‡ By a mistake this balance was shown as Rs. 55,298-14-11 in last year's *printed* report.
Jhánsi ...	...	...	...	...	...	...	.	...	
Lalitpur ..	...	...	...	...	...	...	...	...	
Bijnor ...	...	482 0 11	482 0 11	15 0 0	254 0 5	269 0 5	40 0 0	253 0 6	
Total ...	7,461 10 0	1,60,633 9 4	1,68,095 3 4	67,865 4 5	1,14,383 8 9	1,82,248 13 2	14,406 10 4	253 0 6	

NAINI TAL:
The 6th August. 1878.

G. GREIG,
Conservator of Forests, N.-W. Provinces.

FORM No. 51.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES.

Statement of Outstandings and Liabilities on account of Disbursers, 1877-78.

Division.	Department Debtor.			Department Creditor.			Balance due.		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (outstandings).	By Department (liabilities).	
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p	Rs. a. p.		
Direction ...	...	2,015 4 3	2,015 4 3	*555 0 0	1,460 4 3	2,015 4 3	...	...	* Transferred to this form of disbursers from that of contractors.
Kumaun ...	...	22,831 12 7	22,831 12 7	11,117 14 2	12,113 14 5	23,231 12 7	400 0 0	...	
Naini Tal Subdivision ...	...	...	...	...	...	...	...	...	
Ranikhet ditto ...	...	...	...	...	...	...	...	...	
Garhwál ...	...	5,077 8 9	5,077 8 9	2,400 0 0	2,977 8 9	5,377 8 9	300 0 0	...	
Dehra Dún ...	...	5,472 13 7	5,472 13 7	4,552 4 3	1,206 9 10	5,758 14 1	286 0 6	...	
Jaunsár ...	...	1,63,837 13 10	1,63,837 13 10	25,000 0 0	1,76,916 9 10	2,01,916 9 10	38,078 12 0	...	
Bhágirathi ...	...	922 5 1	922 5 1	...	1,005 11 3	1,005 11 3	83 6 2	...	
Jhánsi ...	...	974 11 0	974 11 0	...	974 11 0	974 11 0	...	...	
Lalitpur ...	...	845 0 0	845 0 0	372 7 3	690 9 5	1,063 0 8	218 0 8	...	
Bijnor ...	...	410 0 0	410 0 0	...	810 0 0	810 0 0	400 0 0	...	
Total ...	...	2,02,387 5 1	2,02,387 5 1	43,997 9 8	1,98,155 14 9	2,42,153 8 5	39,766 3 4	...	

NAINI TAL:
The 6th August, 1878.

G. GREIG,
Conservator of Forests, N.-W. Provinces.

FORM No. 52.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES.

Statement of Outstandings on account of Revenue, 1877-78.

Division.	Particulars.	Outstanding at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	REMARKS.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Direction ...	Sale of timber and other minor produce.	...	...	...	...	...	
Kumaun ...	Ditto ...	10,238 3 0	19,498 12 6	29,736 15 6	27,482 10 10	2,254 4 *8	
Naini Tal Subdivision,	Ditto ...	...	...	...	...	...	
Ránikhet ditto ...	Ditto ...	...	870 14 10	870 14 10	674 14 10	196 0 0	
Garhwál ...	Ditto ...	...	72,128 13 4	72,128 13 4	72,121 7 5	7 5 11	
Dehra Dún ...	Ditto ...	100 9 0	2,395 14 3	2,496 7 3	*6,000 0 0 †100 9 0	2,395 14 3	*Dehra Dún Division has received in advance from a timber purchaser Rs. 6,000, which is entered in column 6 in red ink. This amount is really a deposit. † Rs 100-9 0 is struck off, *vide* G O. No. 320F., dated 16th November, 1877.
Jaunsár ...	Ditto ...	3,133 9 2	29,725 10 4	32,859 3 6	32,859 3 6	...	
Bhágirathi ...	Ditto ...	...	26,177 9 8	26,177 9 8	26,177 9 8	...	
Jhánsi ...	Ditto ...	...	...	...	...	...	
Lalitpur ...	Ditto ...	...	1,185 13 0	1,185 13 0	‡1,136 12 0	49 1 0	‡ Includes Rs. 48-1 0 remitted by G. O. No. 3597F.-C., dated 15th August, 1877.
	Total ...	13,472 5 2	1,51,983 7 11	1,65,455 13 1	§6,000 0 0 1,60,553 3 3	4,902 9 10	§ The Rs. 6,000 entered in column 6 is a balance due by the Department.

NAINI TAL,
The 6th August, 1878 :

G. GREIG,
Conservator of Forests, N.-W. Provinces.

FORM No. 53.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES.

Statement of trees felled during the year 1877-78.

Division.	Forest range.	Locality.	Description of trees.	On hand from previous year.		Felled during current year.		Total.		Disposed of during current year.			Closing balance.	
				No.	C. ft.	No.	C. ft.	No.	C. ft.	How disposed of.	No.	C. ft.	No.	C. ft.
Kumaun.	Bhábar forest, including all fire lines.	Various ...	Sál ...	...	...	2,488	51,096	2,488	51,096	Converted into logs, sleepers, and scantlings.	2,488	51,096	...	...
			Sein ...	...	...	578	12,941	578	12,941		578	12,941	...	...
			Jamun ...	...	...	109	1,875	109	1,875		109	1,875	...	...
			Bakli ...	...	...	32	324	32	324		32	324	...	...
			Haldu ...	...	...	83	1,229	83	1,229		83	1,229	...	...
			Kada ...	...	...	6	126	6	126		6	126	...	...
			Dhauri ...	...	...	315	2,734	315	2,734	Do. into sleepers and do.	315	2,734	...	...
			Babera ...	...	...	2	19	2	19	Do. into scantlings.	2	19	...	...
			Total ...	...	...	3,613	70,344	3,613	70,344		3,613	70,344	...	...
Ránikhet.	Shanni ...	Various ...	Chír ...	...	...	9,884	177,825	9,884	177,825	Made over to villagers ... 25,737	9,884	177,825	...	...
			Oak ..	...	...	636	5,088	636	5,088		636	5,081	...	...
			Other kinds,	...	...	673	5,472	673	5,472	Used by Dept. for fencing, 1,229	673	5,472	...	...
	Ránikhet,		Chír ...	..	...	7,312	171,654	7,312	171,654		7,312	171,654	...	...
			Oak ...	...	...	51	408	51	408	Sold ... 720	51	408	...	...
	Airadeo ...		Chír ...	...	...	9,069	137,699	9,069	137,699		9,069	137,699	...	...
			Oak ...	...	...	61	488	61	488	Total trees ... 27,686	61	488	...	...
			Total ...	...	...	27,686	498,634	27,686	498,634		27,686	498,634	...	...

FORM No. 53.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES.

Statement of trees felled during the year 1877-78—(continued).

Division.	Forest range.	Locality.	Description of trees.	On hand from previous year.		Felled during current year.		Total.		Disposed of during current year.			Closing balance.	
				No.	C. ft.	No.	C. ft.	No.	C. ft.	How disposed of.	No.	C. ft.	No.	C. ft.
Garhwál.	Gaurighát ...	Mudhal ...	Sein ...	...	...	200	9,654	200	9,654	Converted into logs and scantlings ...	200	9,654	...	...
		Mata katal and Ganeda Baheri.	Kokat ...	...	...	9,496	27,126	9,496	27,126	Ditto into ballas and tors	9,496	27,126	...	...
	Patli Dún ...	Tumaria and Simulkhalia.	Roli Tumri, Kat Bhilai ... Dhauri ... Patta ...	...	...	5,900	983	5,900	983	Cut into ballas & floats,	5,900	983	...	...
	Ditto ...	Tumaria ...	Roli & Patta,	...	...	500	83	500	83	Ditto ...	500	83	...	...
	Ditto ...	Bhakwa ...	Bamboos ...	...	...	24,000	...	24,000	...	Ditto ...	24,000	...	...	...
			Total ...	...	...	40,096	37 846	40,096	37,846		40,096	37,846	...	...
Dehra Dún.	Eastern Dún,	Bulawála ...	Sál ...	...	...	11,189	43,815	11,189	43,815	Removed by purchasers,	20	80	...	...
	Ditto ...	Ditto ...	Kokat ...	...	...	223	892	223	892	Converted into scantling,	11,169	43,735	...	...
	Ditto ...	Thano ...	Sál ...	...	...	3	12	3	12	Ditto ...	223	892	...	...
										Removed by purchasers,	3	12	..	...
			Total ...	...	...	11,415	44,719	11,415	44,719		11,415	44,719	...	...

Jaunsár.	Karamba ...	Bhujkote ...	Deodár ...	669	66,950	...	...	669	66,950	...	...	...	669	66,950
		Gotugád ...	Ditto ...	14	1,350	...	...	14	1,350	...	...	...	14	1,350
		Pani-ki-nal ...	Ditto ...	225	21,975	...	...	225	21,975	...	...	...	225	21,975
		Sujari ...	Ditto ...	...	...	8	875	8	875	Sawn into karis ...	8	875	...	...
		Konain ...	Rai ...	105	9,995	...	...	105	9,995	Ditto planks ...	20	2,110	85	7,885
		Ditto ...	Kail ...	50	5,120	...	...	50	5,120	...	...	...	50	5,120
	Deota ..	Partil temple,	Deodar ...	687	67,915	1,420	229,889	2,107	297,804	Sawn into sleepers ...	1,784	2,59,889	323	37,915
	Bawar ...	Karauli ...	Chír ...	200	21,110	4	437	204	21,547	Ditto scantling ...	144	15,205	60	6,342
			Total ...	1,950	194,415	1,432	231,201	3,382	425,616		1,956	2,78,079	1,426	1,47,537
Jhánsi. Bhágirathi.	...	Above Hursil,	Deodar ...	615	22,931	2,775	104,216	3,390	127,147	Converted into sleepers,	2,293	85,759	1,097	41,388
			Total ...	615	22,931	2,775	104,216	3,390	127,147		2,293	85,859	1,097	41,388
	Babina circle,	Babína ...	Karali & Dhow	401	1,203	1,598	4,794	1,999	5,997	...	777	2,331	1,222	3,666
			Total ...	401	1,203	1,598	4,794	1,999	5,997		777	2,331	1,222	3,666
Lalitpur.	Birdha ...	Hápur ...	Tendu ...	...	...	30	...	30	...	Converted into ballis	30	...	...	...
	Bangaon ...	Bangaon ...	Ochar ..	...	...	19	...	19	...		*19	...	...	...
	Ditto ...	Papro ...	Ditto ...	...	...	12	...	12	...		12	...	...	...
	Patra ...	Hudda ...	Mohua ...	...	...	3	...	3	...		3	...	...	...
	Barr ...	Larwari ...	Dhow ...	...	...	3	...	3	...		3	...	...	...
			Total ...	...	...	67	...	67	...		67	...	...	...
Bijnor.	Rehar ...	Nagína ..	Sál ...	...	...	95	estimated 1,140	95	estimated 1,140	... Converted into ballis ...	... 95	estimated. 1,140	...	...
			Total ...	...	...	95	1,140	95	1,140		95	1,140	...	...
			Total ...	2,966	218,549	88,777	992,894	91,743	1,211,443		87,998	10,18,852	3,745	1,92,591

* The Deputy Commissioner has not given cubic contents of the trees.

NAINI TAL:
The 6th August, 1878.

G. GREIG,
Conservator of Forests, N.-W. Provinces.

FORM No. 54.

Forest Department, North-Western Provinces.

Statement of Logs, Sleepers and other Scantlings cut and exported during the year 1877-78.

Division.	Forest range.	Locality.	Description of timber and scantling.	On hand from previous year.		Cut during current year.		Total.		Disposed of during current year.			Closing balance.		Remarks.
				No.	C. ft.	No.	C. ft.	No.	C. ft.	How disposed of	No.	C. ft.	No.	C. ft.	
Kumaun.	Bhábar forests, including all fire lines.	Various ...	Sál logs ..	...	...	412	18,667	412	18,667	...	...		412	18,667	
			„ karis ...	1,137	1,666	26,213	40,622	27,350	42,288	Carried to depôt...	12,284	19,835	15,066	22,453	
			„ sleepers ...	...	...	504	1,830	504	1,830	Ditto ...	14	49	490	1,781	
			Haldu karis ...	...	...	767	1,229	767	1,229	Ditto ...	483	770	284	459	
			Sein „ ...	186	258	8,013	12,960	8,199	13,218	Ditto ...	5,988	9,661	2,211	3,557	
			Dhauri and bakli karis.	...	...	223	367	223	367	Ditto ...	126	208	97	159	
			Jamun karis ...	29	45	1,187	1,875	1,216	1,920	Ditto ..	846	1,343	370	577	
			Chir „ ...	834	1,243	...	...	834	1,243	Ditto ...	834	1,243	...	...	
			„ sleepers ...	2,234	7,784	3	10	2,237	7,794	Ditto ...	2,237	7,794	...	...	
			Dhauri „ ...	3,016	10,468	799	2,308	3,815	12,776	Ditto ...	3,815	12,776	...	...	
			Kukat karis ...	23	38	91	146	114	184	Ditto ...	60	100	54	84	
			Tún planks ...	...	...	10	12	10	12	Sold ...	10	12	...	...	
			Total ...	7,459	21,502	38,222	80,026	45,681	1,01,528		26,697	53,791	18,984	47,737	
Garhwál.	Patli Dún ...	Mainagari ...	Sál karis ...	6,245	8,758	...	...	6,245	8,758	Carried to depôt..	6,245	8,758	...	...	
										Ditto ..	3	16	...	...	
	Ditto ...	Ditto ...	„ sleepers ...	93	484	...	...	93	484	Sold ...	90	468	...	...	
	Gorighát ...	Gori and Mudhal.	Sein logs ...	30	625	408	9,762	438	10,387	Carried to depôt...	403	9,654	35	733	
	Ditto ...	Basodhara ...	„ karis ...	39,501	65,675	1,360	2,206	40,861	67,881	Ditto ...	40,861	67,881	...	...	
	Ditto ...	Bagada Koria. Málákatal, Gundabaheri, Láldhang.	Kukat ballas ...	7,760	24,051	9,650	17,887	17,410	41,938	Ditto ...	17,410	41,938	...	...	
	Patli Dún ...	Boxar ...	„ buttas ...	...	...	6,400	1,066	6,400	1,066	Ditto ...	6,400	1,066	...	...	
			Total ...	53,629	99,593	17,818	30,921	71,447	1,30,514	Ditto ...	71,412	129,781	35	733	

Dehra Dún.	Ditto	Bhakwa	Bamboos ...	...	...	24,000	...	24,000	...	Carried to depôt,	24,000	...	...	...	
			Sál logs	5	58	...	...	5	58	Ditto	5	58	...	...	
			„ karis	583	1,004	9,880	15,034	10,463	16,038	Ditto	10,463	16,038	...	...	
	Eastern Dún,	Búlawala	Sál tors and ballis,	1,159	1,032	22,692	20,215	23,851	21,247	Ditto	23,851	21,247	...	...	
			Damaged karis	215	292	1,344	1,821	1,559	2,113	Ditto	1,559	2,113	...	...	
			Ballas	...	...	252	1,495	252	1,495	Ditto	252	1,495	...	...	
			Damaged tors	...	...	272	2,784	272	2,784	Ditto	272	2,784	...	...	
			Total	1,962	2,386	34,440	41,349	36,402	43,735	...	36,402	43,735	...	...	
Jaunsár.	Karamba	Siyarigád	Deodar karis	...	...	158	352	158	352	Ditto	158	352	...	...	
	Ditto	Ditto	„ shingles	...	...	221	28	221	28	Ditto	221	28	..	...	
	Deota	Partil and temple.	„ sleepers	...	...	82,802	259,889	82,802	259,889	Ditto	37,412	130,804	45,390	129,085	
	Karamba ...	Choli-ki-that,	Rai scantling	348	238	1,476	1,025	1,824	1,263	Ditto	175	122	1,649	1,141	
	Deota ...	Karauli	Chír karis	3,635	13,735	592	4,238	4,227	19,973	Ditto	664	5,164	3,563	12,809	
	Deoban and Loknadi.	Kanjatra and Bodrar.	Rai ballis	...	...	94	552	94	552	Ditto	81	448	13	104	
			Total	3,983	13,973	85,343	266,084	89,326	230,057	...	38,711	136,918	50,615	143,139	
18 Bhágirathi.	...	...	Deodar sleepers ...	10,000	34,722	84,155	112,206	94,155	146,928	Ditto	94,155	146,928	...	...	
			Total	10,000	34,722	84,155	112,206	94,155	146,928	...	94,155	146,928	...	...	
Jhánsi	Jhánsi Forest,	Babina	Ballis	...	...	*1,999	5,997	1,999	5,997	Removed by purchasers.	777	2,331	1,222	3,666	*Including a balance of 401 ballis not shown in last year's statement.
			Total	...	...	1,999	5,997	1,999	5,997	...	777	2,331	1,222	3,666	
Lalitpur.	Deogarh, &c.,	...	Ballis	...	...	250	400	250	400	Carried to depôt,	250	400	...	...	
			Total ...	...	...	250	400	250	400	...	250	400	...	...	
Bijnor	Rehar	Nagina	Ballis ...	...	...	695	1,042	695	1,042	...	695	1,042	...	...	
			Total ...	...	...	695	1,042	695	1,042	...	695	1,042	...	...	
			Grand Total ...	77,033	172,176	286,922	538,025	363,955	710,201	...	293,099	514,926	76,850	195,275	

Naini Tal:
The 6th August, 1878.

G. GREIG,
Conservator of Forests, N.-W. Provinces.

FORM No. 55.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES.

Statement of Timber and other Produce brought to Depôt from the different Forest Divisions, 1877-78.

Division.	Forest.	Description of timber, &c.	No. of Pieces.	No. of Cubic feet.	Total of each Division. Pieces.	Total of each Division. Cubic feet.
Kumaun ...	...	Sál karis ...	12,142	19,399		
		„ other kind ...	118	228		
		Haldu karis ...	584	922		
		Sein „ ...	5,903	9,579		
		Dhauri and bakli karis ..	126	208		
		Jamun karis ...	884	1,392		
		Chír „ ...	1,235	1,885		
		„ sleepers ...	2,019	7,010		
		Dhauri „ ...	3,817	13,254		
		Tún planks ...	10	12		
		Kokat karis ...	37	62	26,875	53,951
Naini Tal ...	...	Firewood ...	Mds. 27,130	..	27,130	
Garhwál ...	...	Sál karis ...	6,245	8,758		
		„ sleepers ...	3	16		
		Sein logs ...	403	9,654		
		„ karis ...	40,861	67,881		
		Kokat ballis, ballas, &c. ..	23,810	41,938	71,322	128,247
		Bamboos ...	4,000	..	24,000	
Dehra Dún,	...	Sál karis ...	10,463	16,0..8		
		„ tors and ballis ...	23,851	21,247		
		„ logs ...	5	58		
		„ ballas ...	252	1,495		
		Damaged karis ...	1,559	2,113		
		„ tors ...	272	2,784	36,402	43,735
Jaunsár, ...	...	Deodar karis ..	5,459	8,711		
		„ sleepers ...	85,177	264,758		
		„ planks ...	4,530	4,530		
		„ beams ..	11	253		
		„ shingle ...	6,637	329		
		Rai karis ...	493	1,058		
		Chír „ ...	12,212	47,510		
		Rai planks ...	1,091	1,091		
		„ ballis ...	80	320		
		Chír bits ...	195	162		
		Other timber, {Sál, 110 / Oak 5}	115	210	116,000	328,938
		Fuel ...	Mds. 83,451	225,8..6	83,451	225,896
Bhágirathi,	...	Deodar sleepers ...	47,467	83,328		
		Broken „ ...	700	2,431		
		Sál pieces ...	2	12		
		Timber, other kinds ...	109	221	48,278	85,992
		Fuel ...	Mds. 970	...	Mds. 970	...
Jhánsi ...	...	Ballis ...	495	1,485	495	1,485
		Bamboos ...	108	...	108	...
		Keras ...	6,089	...		
		Kurias ...	48,333	...	54,422	...
		Firewood ...	Mds. 1,958	...		
		Charcoal ...	„ 423	...	2,381	...
		Grass ...	Bdls. 212,250	...	212,250	...
Lalitpur ..		Bamboos ...	145,779	...	145,779	...
		Ballis ...	250	400	250	400
Bijnor ...		Ballis ...	695	1,042	695	1,042
			Timber ...	...	300,317	643,790
			Bamboos ...	...	169,887	...
			Fuel & charcoal.	Maunds	113,932	225,896
			Grass ...	Bundles	212,250	...
			Keras and kurias.	..	54,422	...

NAINI TAL:
The 6th August, 1878.

G. GREIG,
Conservator of Forests, N.-W. Provinces.

FORM No. 56.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES.

Account of Timber and other Produce, 1877-78.

Particulars.		Pieces. No.	Pieces. Cubic feet.	Total. No.	Total. Cubic feet.
Balance in hand at commencement of year.					
KUMAUN DIVISION.	Sál logs ...	430	20,173		
	„ karis ...	29,930	48,595		
	„ other kinds ...	305	1,552		
	Haldu, all kinds ...	1,389	2,724		
	Timber, all other kinds ...	5,210	9,744	37,264	82,788
GARHWAL DIVISION.	Sál logs ...	27	1,202		
	„ karis ...	64,274	95,407		
	„ kolus ...	7	306		
	„ other kinds ...	4,918	38,436		
	Sein logs ...	502	10,892		
	Timber, all other kinds ...	16,041	9,953	85,769	156,196
DEHRA DÚN DIVN.	Sál karis ...	4,679	7,153		
	„ other kinds ...	175	394		
	Timber, all other kinds ...	48,695	50,447	53,549	57,994
JAUNSÁR DIVISION.	Deodar timber, various sizes	40,064	32,319		
	Ral „ „ ...	1,837	3,317		
	Chír „ „ ...	17,734	61,852	59,635	97,488
	Oak fuel ...	Mds. 6,886	17,216		
	Fir „ ...	„ 15,600	46,800	22,486	64,016
BHÁGI-RATHI DIVN.	Deodar sleepers ...	2,148	7,458		
	Timber, other kinds ...	31	74	2,179	7,532
	Firewood ...	Mds. 7,344	...	Mds. 7,344	...
JHÁNSI DIVN.	Ballis ...	1,504	4,512	1,504	4,512
	Bamboos ...	2,699	...	2,699	...
LALIT-PUR DIVN.	Ballis ...	1,270	2,032	1,270	2,032
	Bamboos ...	73,769	...	73,769	...
BIJNOR DIVN.	Sál ballis ...	55	82	55	82
Total ...	Timber ...		...	241,225	408,624
	Bamboos ...		...	76,468	...
	Firewood ...		...	29,830	64,016
Received during the year.					
KUMAUN DIVN.	Sál karis ...	12,142	19,399		
	„ other kinds ...	118	228		
	Haldu, all kinds ...	584	922		
	Timber, all other kinds ...	14,031	33,402	26,875	53,951
NAINI TAL DIVISION.	Firewood ...	Mds. 27,130	...	27,130	...

FORM No. 56.

Forest Department, North-Western Provinces.

Account of Timber and other Produce, 1877-78—(continued).

	Particulars.	Pieces. No.	Pieces. Cubic feet.	Total. No.	Total. Cubic feet.
Gabhwál Division.	Sál karis ...	6,245	8,758		
	„ other kinds ...	3	16		
	Sein logs ...	403	9,654		
	„ karis ...	40,861	67,881		
	Timber, all other kinds ...	23,810	41,938		
				71,322	128,247
	Bamboos ...	24,000	...		
				24,000	...
Dehra Dun Divn.	Sál karis ...	10,463	16,038		
	Timber, all other kinds ...	25,939	27,697		
				36,402	43,735
Jaunsár Division.	Deodar timber, various sizes	101,804	278,581		
	Rai ditto ditto ...	1,664	2,469		
	Chír ditto ditto ...	12,407	47,672		
	Sál and oak ballis ...	115	216		
				116,000	328,938
	Oak fuel ...	48,956	122,391		
	Fir ditto ...	34,495	103,505		
				83,451	225,896
Bhágirathi Division.	Deodar sleepers ...	48,167	85,759		
	Timber, other kinds ...	111	233		
				48,278	85,992
	Firewood ...	Mds. 970	...		
				970	...
Jhánsi Division.	Ballis ...	495	1,485		
				495	1,485
	Kiras ...	6,089	...		
	Kurias ...	48,333	...		
				54,422	...
	Bamboos ...	108	...		
				108	...
	Firewood ...	Mds. 1,958	...		
				Mds. 1,958	...
	Charcoal ...	Mds. 423	...	423	...
	Grass ...	Bdles. 212,250	...		
				Bdles. 212,250	...
Bijnor Lalitpur Divn.	Ballis ...	250	400		
				250	400
	Bamboos ...	145,779	...		
				145,779	...
	Sál ballis ...	695	1,042		
				695	1,042
	Removed by purchasers.				
Kumaun Divn.	Sál logs ...	229	11,236		
	„ karis ...	27,478	45,730		
	„ other kinds ...	300	363		
	Haldu, all kinds ...	1,478	2,852		
	Timber, all other kinds ...	9,787	27,731		
				39,272	87,912
Naini Tal Divn.	Firewood ...	Mds. 27,130	...		
				27,130	...
Garhwál Divn.	Sál logs ...	27	1,202		
	„ karis ...	16,686	19,364		
	„ kolus ...	7	306		
	„ other kinds ...	1,016	8,518		
	Sein logs ...	905	19,446		
	„ karis ...	41,101	68,281		
	Timber, all other kinds ...	35,557	39,802		
				95,299	156,919
	Bamboos ...	24,000	...		
				24,000	...

FORM No. 56.

Forest Department, North-Western Provinces.

Account of Timber and other Produce, 1877-78—(continued).

Particulars.		Pieces. No.	Pieces. Cubic feet.	Total. No.	Total. Cubic feet.
Dehra Dún Divn.	Sál karis ...	5,222	8,125		
	„ other kinds ...	70	157		
	Timber, all other kinds ...	3,159	3,657		
				8,451	11,939
Jaunsár Division.	Deodar timber, various kinds,	64,104	148,691		
	Rai „ „ ...	1,162	3,227		
	Chír „ „ ...	5,715	19,775		
	Oak and sál ballis ...	115	216		
				71,096	171,909
	Oak fuel ...	Mds. 24,544	61,382		
	Fir „ ...	„ 22,728	68,185		
				47,272	129,567
Bhágirathi. Division.	Deodar sleepers ...	50,287	93,120		
	Timber, other kinds ...	142	307		
				50,429	93,427
	Firewood ...	Mds. 8,314	...		
				8,314	...
Jhánsi Division.	Ballis ...	777	2,331		
				777	2,331
	Kiras ...	4,401	...		
	Kurias ...	38,143	...		
				42,544	...
	Bamboos ...	1,538	...		
				1,538	...
	Firewood ...	Mds. 1,629	...		
	Charcoal ...	„ 342	...		
				1,971	...
	Grass ...	Bdles. 137,493	...		
				137,493	...
Bijnor Lalitpur Divn. Division.	Ballis ...	683	1,093		
				683	1,093
	Bamboos ...	97,835	...		
				97,835	...
	Ballis ...	750	1,125		
				750	1,125
Total ...		Timber ...		266,757	526,655
		Bamboos ...		123,373	...
		Fuel and charcoal,	Mds.	84,687	129,567
		Grass,	Bundles	137,493	...
		Kiras and kurias		42,544	...
Lost or used by the Department.					
Kumaun Division.	Sal logs ...	...	10		
	„ karis ...	3	6		
	„ other kinds ...	6	4		
	Timber, all other kinds ...	...	11		
				9	31
Dehra Dún Divn. Garhwal Division.	Sal karis ...	633	849		
	„ other kinds ...	20	300		
	Sein logs ...	...	1,100		
	Timber, all other kinds ...	24	35		
				677	2,284
	Timber, various kinds ...	230	320		
				230	320
Bhágirathi Division.	Firewood ...	Mds. 1	...	1	...
Total ...		Timber ...	...	916	2,635
		Fuel ...	...	Md. 1	

FORM No. 56.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES.

Account of Timber and other Produce, 1877-78—(concluded).

Particulars.	Pieces. No.	Pieces. Cubic feet.	Total. No.	Total. Cubic feet.
Otherwise removed (these are merely transfers from one depôt to another and the items are included under "Received during year."	18,521	16,004		
JAUNSÁR DIVISION. Deodar timber	1,355	1,563		
Rai "	11,586	42,900		
Chír "			31,462	60,467
Balance in hand at close of year				
KUMAUN DIVISION. Sál logs	201	8,927		
" karis	14,591	22,258		
" other kinds	117	1,413		
Haldu, all kinds	495	794		
Timber, all other kinds	9,454	15,404		
			24,858	48,796
GARHWÁL DIVN. Sál karis	53,200	83,952		
" other kinds	3,885	29,634		
Timber, all other kinds	4,030	11,654		
			61,115	125,240
DEHRA DÚN DIVN. Sál karis	9,920	15,066		
" other kinds	105	236		
Timber, all other kinds	71,245	74,167		
			81,270	89,469
BHÁGIRATHI DIVN. JAUNSÁR DIVISION. Deodar timber, various sizes,	59,253	146,205		
Rai " "	984	996		
Chir " "	12,840	46,849		
			73,077	194,050
Oak fuel	Mds. 31,298	78,245		
Fir "	" 27,367	82,100		
			58,665	160,345
Deodar sleepers	28	97		
			28	97
JHÁNSI DIVISION. Ballis	1,222	3,666		
			1,222	3,666
Kiras	1,688	...		
Kurias	10,190	...		
			11,878	...
Bamboos	1,269	...		
			1,269	...
Firewood	Mds. 328	...		
Charcoal	" 81	...		
			409	...
Grass	Bdles. 74,757	...		
			74,757	...
LALITPUR DIVISION. Ballis	837	1,339	837	1,339
Bamboos	121,713	...		
			121,713	...
Total ... Timber		...	242,407	4,62,657
Bamboos		...	122,982	...
Firewood and charcoal		...	59,074	160,345
Grass		...	74,757	...
Kiras and kurias		...	11,878	...
Grand Total ... Timber		...	541,542	1,052,414
Bamboos		...	246,355	...
Fuel and charcoal		Mds	143,762	289.912
Grass		Bundles	212,250	...
Kiras and kurias		..	54.422	...

NAINI TAL:
The 6th August, 1878.

G. GREIG,
Conservator of Forests, N.-W. Provinces.

FORM No. 57.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES

Statement showing the amount realized on account of the different classes of Timber and other Produce sold during 1877-78.

Division.	Description of timber, &c.	No. of pieces, &c., sold.	Cubic contents.	Amount realized and due on account of sales.	Average amount per log, &c.	Average cubical contents of logs.	Average amount per cubic foot.	REMARKS.
			Feet.	Rs. a. p.	Rs. a. p.	′ ″ ‴	Rs. a. p.	
KUMAUN	Sál logs	229	11,236	18,291 0 0	79 13 11	49 0 3	1 10 0	
	„ karis	27,478	45,730	45,707 0 0	1 10 7	1 7 11	1 0 0	
	„ other kinds	300	363	601 0 0	2 0 0	1 2 6	1 10 6	
	Haldu, all kinds	1,478	2,852	1,054 0 0	0 11 4	1 11 2	0 5 10	
	Timber, other kinds	9,787	27,731	18,690 0 0	1 14 6	2 10 0	0 10 5	
	Total ..	39,272	87,912	84,343 0	2 2 4	2 2 10	0 15 4	
NAINI TAL	Firewood	Mds. 27,130	...	5,181 0 0	0 3 0½	per maund.	..	
GARHWAL	Sál logs	27	1,202	1,193 0 0	38 5 0	44 0 0	0 13 9	
	„ kolas	7	306	110 0 0				
	„ karis	16,686	19,364	15,413 0 0	0 14 9	1 0 0	0 12 8	
	„ other kinds	1,016	8,518	11,957 0 0	11 12 3	8 0 0	1 6 5	
	Sein logs	905	19,446	12,154 0 0	13 6 10	21 0 0	0 10 0	
	„ karis	41,101	68,281	39,712 0 0	0 15 5	1 6 0	0 9 3	
	Timber, other kinds	35,557	39,802	7,827 0 0	0 3 6	1 0 0	0 3 4	
	Bamboos	24,000	...	84 0 0	...	...	...	
	Total ...	119,299	156,919	88,450 0 0	*0 14 10	*1 8 0	0 9 0	* Excluding bamboos.
DEHRA DUN	Sál karis ...	5,222	8,125	7,038 0 0	1 5 6	1 6 8	0 13 10	
	„ other kinds	70	157	175 0 0	*2 8 0	2 2 11	1 1 10	
	Timber, all other kinds ...	3,159	3,657	1,781 0 0	0 9 0	1 1 11	0 7 9	
	Total	8,451	11,939	8,994 0 0	1 1 0	1 5 0	0 12 0	

FORM No. 57.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES.

Statement showing the amount realized on account of the different classes of Timber and other Produce sold during 1877-78—(concluded).

Division.	Description of timber, &c.	No. of pieces, &c., sold.	Cubic contents.	Amount realized and due on account of sales.	Average amount per log, &c.	Average cubical contents of logs.	Average amount per cubic foot.	REMARKS.
			Feet.	Rs a. p.	Rs. a. p.	′ ″ ‴	Rs. a. p.	
JAUNSAR	Deodar sleepers ...	39,689	131,638	1,44,473 0 0	3 10 3	3 3 9	1 1 6	
	„ karis and planks ...	24,415	17,053	18,064 0 0	0 11 10	0 8 4	1 0 11	
	Rai karis and planks ...	822	1,842	1,692 0 0	2 1 0	2 2 10	0 14 8	
	„ ballis ...	340	1,385	1,386 0 0	4 1 2	4 0 10	1 0 0	
	Oak „ ...	5	3	4 0 0	0 12 9	0 7 2	1 5 4	
	Sal „ ...	110	213	426 0 0	3 14 0	1 11 2	2 0 0	
	Chir karis ...	5,715	19,775	10,439 0 0	1 13 3	3 3 5	0 8 5	
	Oak and fir fuel ...	Mds. 45,549	124,046	18,690 0 0	...	...	0 2 5	
	Ditto ...	„ 1,723	5,521	633 0 0	...	...	0 1 10	
	Surplus fuel supplied to Commissariat Department.	...	...	4,472 0 0	*			
	Charcoal ...	...	...	342 0 0	*			
	Lime ...	...	...	301 0 0	*			
	Total, Pieces ...	71,096	171,909	1,76,484 0 0	2 7 8	2 5 0	1 0 5	*These entries appear here so as to show how the revenue under head I. was realized. The fuel was not regularly brought to depôt, and on that account was not brought on to stock in the monthly returns.
	Total, Maunds ...	47,272	129,567	24,438 0 0	...	...	...	
BHAGIRATHI,	Deodar sleepers ...	50,287	93,120	1,14,525 0 0	2 4 5	1 10 2	1 3 9	
	Timber, other kinds ...	142	307	44 0 0	0 4 11	2 1 11	0 2 3	
	Firewood ...	Mds. 8,314	...	1,057 0 0	...	...	...	
	Total, Pieces ...	50,429	93,427	1,14,569 0 0	2 4 4	1 10 0	1 3 7	
	Total, Maunds ...	8,314	...	1,057 0 0	...	...	...	
JHANSI	Ballis ...	777	2,331	109 0 0	0 2 3	3 0 0	0 0 9	
	Bamboos ...	1,538	...	74 0 0	0 0 4	...	...	
	Firewood ...	Mds. 1,629	...	249 0 0	0 2 5	...	...	
	Charcoal ...	„ 342	...	162 0 0	0 7 7	...	...	

	Kira		4,401	...	316 0 0	0 1 0	...	...
	Kuria		38,143	...	216 0 0	0 0 1	...	...
	Grass	Bdles.	37,493	...	370 0 0	0 4 4	per 100	...
	Total, Pieces ...		44,859	...	...	...	...	...
	Total, Maunds ...		1,971	...	1,456 0 0	...	...	...
	Total, Bundles ...		137,493	...	...	...	...	...
LALITPUR ...	Ballis		683	1,093	48 0 0	0 1 0	1 7 2	0 0 9
	Bamboos		97,835	...	491 0 0	0 0 1	...	...
	Total ...		98,518	...	539 0 0	...	...	...
BIJNOR ...	Sál ballis		750	1,125	192 0 0	0 4 1	1 6 0	0 2 9
	Confiscated timber		...	...	654 0 0	...	...	...
	Total ...		750	1,125	846 0 0	...	...	...
	Summary.							
	Timber		266,757	526,655	4,73,105 0 0	1 12 4	1 11 0	0 14 4
	Confiscated timber		...	...	654 0 0	...	...	...
	Firewood and charcoal ...	Mds.	84,687	129,567	31,087 0 0	...	...	...
	Bamboos		123,373	...	609 0 0	...	...	...
	Kiras and kurias		42,544	...	532 0 0	...	...	...
	Grass	Bdles.	137,493	...	370 0 0	...	...	...
	Total ...		...	...	5,06,357 0 0	...	...	...

Deduct amount received in advance and credited under head I. in 1876-77 ...	3,502 0 0
Balance ...	5,02,855 0 0
Deduct commission, value of timber used by the Forest Department, &c., low rate charged for timber, &c.	4,542 0 0
Balance ...	4,98,313 0 0
Deduct amount due, but not realized during year...	163 0 0
Balance ...	4,98,150 0 0
Add amount received in advance and credited under head I. (*a*)	6,000 0 0
Add	5,04,150 0 0
Amount realized on account of former years	11,273 0 0
	5,15,423 0 0
Deduct amount credited under heads II. (*e*) and III.	779 0 0
Total shown as revenue on account of sales under Budget head I.	5,14,644 0 0

NAINI TAL:
The 6th August, 1878.

G. GREIG,
Conservator of Forests, N.-W. Provinces.

FORM No. 58.

Statement showing the amount expended on the different classes of Timber and other produce brought to Depôt during the year 1877-78.

Division or depôt.	Particulars of timber, &c.	No. of Pieces.	No. of Cubic contents.	Expenditure. Timber expenses under A. I.	Expenditure. Quota of all other expenditure chargeable against timber, &c.	Expenditure. Total amount chargeable against timber, &c.	Average. Amount per piece.	Average. Cubic contents per piece.	Average. Amount per cubic foot.	Remarks.
			C. feet.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	′ ″ ‴	Rs. a. p.	
Naini Tal Kumaun Division.	Sál karis ...	12,142	19,399	...	...	...	...	...	...	
	„ wood of other kinds.	118	228	...	...	...	...	...	...	
	Haldu, all kinds ...	584	922	...	...	...	...	...	...	
	Timber of all other kinds.	14,031	33,402	...	...	...	...	...	...	
	Total ...	26,875	53,951	23,951 0 0	14,391 0 0	38,342 0 0	1 7 0	2 0 0	0 11 4	
Naini Tal Sub-division.	Firewood ...	Mds. 27,130	...	3,150 0 0	1,381 0 0	4,531 0 0	...	...	0 2 8	Per maund.
	Total ...	27,130	...	3,150 0 0	1,381 0 0	4,531 0 0	...	...	0 2 8	Ditto.
Garhwál Division.	Sál karis ...	6,245	8,758							
	„ sleepers ...	3	16							
	Sissu logs ...	403	9,654	17,902 0 0	10,658 0 0	28,560 0 0	0 6 5	1 9 7	0 3 6	
	„ karis ...	40,861	67,881							
	Kokat, ballis, ballas, &c. ...	23,810	41,938							
	Bamboos ...	24,000	...	47 0 0	...	47 0 0	...	...	0 3 0	Per 100
	Total ...	71,322 c. ft. & 24,000 bamboos.	128,247	17,949 0 0	10,658 0 0	28,607 0 0	...	...	...	
Dehra Dún Division.	Sál karis ...	10,463	16,038	...	...	...	...	...	...	
	Timber of all other kinds ...	25,939	27,697	...	...	...	...	...	...	
	Total ...	36,402	43,735	8,059 0 0	9,000 0 0	17,059 0 0	0 7 6	1 2 5	0 6 3	

Jaunsár Division.	Deodar timber of various sizes.	101,814	278,581								
	Rai timber of various sizes.	1,664	2,469	1,46,334 0 0	13,000 0 0	1,59,334 0 0	1 6 0	2 10 0	0 7 9		
	Oak and sál ballis ...	115	216								
	Chír karis, &c. ..	12,407	47,672								
	Oak and fir fuel ...	mds. 83,451	225,896	29,840 0 0	6,000 0 0	35,840 0 0	...	...	0 6 10	Per maund.	
	Total ...	116,000 and 83,451 maunds.	328,938 225,896	1,76,174 0 0	19,000 0 0	1,95,174 0 0	...	...	...		
Bhágirathi Division.	Deodar sleepers ...	48,167	85,759								
	Sál pieces ...	2	12	37,067 0 0	19,836 0 0	56,903 0 0	1 3 0	1 9 4	0 10 7		
	Timber, other kinds,	109	221								
	Firewood ...	mds. 970	...	395 0 0	...	395 0 0	...	...	0 6 6	Ditto.	
	Total ...	48,278 and 970 maunds.	85,992	37,462 0 0	19,836 0 0	57,298 0 0	...	...	...		
Jhánsi Division.	Ballis ...	495	1,485	31 0 0	14 0 0	45 0 0	0 1 6	3 0 0	0 0 6		
	Bamboos ...	108	...	0 6 0	...	0 6 0	...	...	0 5 6	Per 100.	
	Firewood and charcoal ...	mds. 2,381	...	318 0 0	150 0 0	468 0 0	...	...	0 3 2	Per maund.	
	Grass (bundles) ...	212,250	*	436 0 0	200 0 0	636 0 0	...	...	...		* Kiras and kurias sell by the hundred, and grass by the bundle.
	Kiras and kurias ...	54,422									
	Total ...	Various...	1,485	785 6 0	364 0 0	1,149 6 0	...	...	...		
Lalitpur Division.	Ballis ...	250	400	18 0 0	10 0 0	28 0 0	0 1 9	1 7 2	0 1 0		
	Bamboos ...	145,779	...	122 0 0	174 0 0	296 0 0	...	...	0 3 3	Per 100.	
	Total ...	250 and 145,779	400	140 0 0	184 0 0	324 0 0	...	...	...		
Bijnor Division.	Sál ballis ...	695	1,042	75 0 0	116 9 0	191 0 0	0 4 5	1 6 0	0 3 0		
	Total ...	695	1,042	75 0 0	116 0 0	191 0 0	0 4 5	1 6 0	0 3 0		
					Summary of above.						
All Divisions.	Timber ...	300,317	643,790	2,33,437 0 0	67,025 0 0	3,00,462 0 0	1 0 0	2 2 0	0 7 5		
	Bamboos ...	169,887	...	169 0 0	174 0 0	343 0 0	...	...	0 3 3	Per 100.	
	Firewood mds.	113,932	...	33,703 0 0	7,531 0 0	41,234 0 0	...	...	0 5 8	Per maund.	
	Grass (bundles) ...	212,250	†	436 0 0	200 0 0	636 0 0	...	...	...		† Grass sold by the bundle, and kiras and kurias by the hundred.
	Kiras and kurias ...	54,422									
	Grand total ...	Various...	643,790	2,67,745 0 0	74,930 0 0	3,42,675 0 0	...	...	...		

NAINI TAL:
The 6th August, 1878.

G. GREIG,
Conservator of Forests, N.-W. Provinces.

FOREST DEPARTMENT,

Statement showing the Revenue derived from, and Expenditure incurred on, Timber and other

Name of Department.	Particulars of supplies.	Amount supplied.	Rate. At	Rate. Per.	Amount of Due.	Amount of Received.
			Rs. a. p.		Rs. a. p.	Rs. a. p.
Commissariat Department, Naini Tal.	Oak fuel, ...	mds. 3,074	14 12 0	100 mds.,	453 0 0	453 0 0
	Do. do. ...	5,781	15 4 0	"	882 0 0	882 0 0
	Do. do. ...	3,252	18 4 0	"	594 0 0	594 0 0
	Chír do. ...	9,615	16 4 0	"	1,562 0 0	1,562 0 0
	Do. do. ...	5,409	31 4 0	"	1,690 0 0	1,690 0 0
Scindia State Railway.	Chír sleepers,	2,337	2 8 0	sleeper ...	5,842 0 0	5,842 0 0
	Dhauri do. ...	2,635	3 0 0	"	7,905 0 0	7,905 0 0
	Sál do. ...	550	1 4 0	cubic foot	3,581 0 0	3,581 0 0
	Deodar do. ...	44,768	4 0 0	sleeper ...	1,78,840 0 0	1,78,840 0 0
	Do. do. ...	473	2 0 0	"	946 0 0	946 0 0
Rajputana State Railway.	Dhauri sleepers,	961	0 10 0	cubic foot	2,105 0 0	2,105 0 0
	Deodar do. ...	38,048	2 0 0	sleeper...	76,168 0 0	76,168 0 0
Northern Division, Ganges Canal.	Kukat ballas,	888	22 8 0	Score ...	999 0 0	999 0 0
	Do. do. ...	1,000	25 8 0	"	1,275 0 0	1,275 0 0
	Do. tors ...	10,148	4 12 0	"	2,410 0 0	2,410 0 0
	Do. do. ...	6,000	3 0 0	"	900 0 0	900 0 0
	Do. ballis,	3,348	3 12 0	"	628 0 0	628 0 0
	Do. do. ...	3,000	3 8 0	"	525 0 0	525 0 0
	Sál logs,	19	1 6 0	cubic foot	1,060 0 0	1,060 0 0
	Jáman planks,	566	0 10 3	plank ...	365 0 0	365 0 0
	Tún do. ...	18	1 4 8	"	23 0 0	23 0 0
	Sál ghats,	70	2 8 0	ghat ...	175 0 0	175 0 0
	Deodar sleepers,	2,820	0 6 0	sleeper ...	1,057 0 0	1,057 0 0
	Firewood ...	mds. 650	0 1 11	md. ...	78 0 0	78 0 0
Canal Foundry and Workshops, Roorkee.	Sein logs ...	905	0 10 0	cubic foot	12,154 0 0	12,154 0 0
	Firewood ...	mds. 7,344	0 2 0	md. ...	952 0 0	952 0 0
Workshops, Aligarh,	Bankli logs ...	30	0 15 4	cubic foot	381 0 0	381 0 0
2nd Chakráta Division, Public Works Department, Military Works.	Deodar karis,	4,627	1 8 0	"	7,283 0 0	7,283 0 0
	Do. planks,	8	0 10 0	each	5 0 0	5 0 0
	Do. do. ...	3,917	1 8 0	"	5,876 0 0	5,876 0 0
	Do. do. ...	21	0 13 8	"	18 0 0	18 0 0
	Rai ballis,	29	10 0 0	"	290 0 0	290 0 0
	Do. do. ...	19	1 0 0	"	19 0 0	19 0 0
	Do. do. ...	282	3 11 0	"	1,040 0 0	1,040 0 0
	Do. karis,	640	1 0 0	cubic foot	1,556 0 0	1,556 0 0
	Sál ballis,	21	Various,	"	98 0 0	98 0 0
	Oak fuel ...	5,322	12 0 0	100 feet,	639 0 0	639 0 0
North-Western Provinces (Provincial) Public Works Department, Saháranpur district.	Deodar karis,	253	1 8 0	cubic foot	580 0 0	580 0 0
Commissariat Department, Chakráta.	Oak fuel ...	46,870	19 1 0	100 feet,	8,934 0 0	8,934 0 0
	Fir do. ...	54,400	14 1 0	"	7,670 0 0	7,670 0 0
	Do. do. ...	lbs. 42,441	0 4 0	80 lbs.,	133 0 0	133 0 0
					3,37,691 0 0	3,37,691 0 0

NAINI TAL:
The 6th August, 1878.

No. 59.

NORTH-WESTERN PROVINCES.

produce sold to Public Departments from Depôt during the year 1877-78.

revenue.	*Cost to Forest Department.*			*Comparison of revenue and expenditure.*	
Outstanding.	Timber expenses under A.I.	Quota of all other expenditure chargeable against timber, &c.	Total.	Surplus.	Deficit.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
... ...	3,150 0 0	1,381 0 0	4,531 0 0	650 0 0	...
...	2,708 0 0	1,631 0 0	4,339 0 0	1,503 0 0	...
...	2,736 0 0	1,648 0 0	4,384 0 0	3,521 0 0	...
...	1,020 0 0	605 0 0	1,625 0 0	1,956 0 0	...
...	1,19,780 0 0	22,596 0 0	1,42,376 0 0	36,464 0 0	...
...	1,419 0 0	236 0 0	1,655 0 0	...	709 0 0
...	1,093 0 0	658 0 0	1,751 0 0	354 0 0	...
...	24,709 0 0	13,083 0 0	37,792 0 0	38,376 0 0	...
... ...	2,555 0 0	1,515 0 0	4,070 0 0	2,667 0 0	...
...	386 0 0	228 0 0	614 0 0	446 0 0	...
...	94 0 0	105 0 0	199 0 0	166 0 0	...
...	6 0 0	7 0 0	13 0 0	10 0 0	...
...	45 0 0	50 0 0	95 0 0	80 0 0	...
...	343 0 0	182 0 0	525 0 0	532 0 0	...
...	25 0 0	13 0 0	38 0 0	40 0 0	...
...	2,860 0 0	1,690 0 0	4,550 0 0	7,604 0 0	...
...	309 0 0	163 0 0	472 0 0	480 0 0	...
...	135 0 0	80 0 0	215 0 0	166 0 0	...
...	4,248 0 0	1,214 0 0	5,462 0 0	1,821 0 0	...
...	7 0 0	2 0 0	9 0 0	...	4 0 0
...	3,428 0 0	978 0 0	4,406 0 0	1,470 0 0	...
...	19 0 0	4 0 0	23 0 0	...	5 0 0
...	232 0 0	14 0 0	246 0 0	44 0 0	...
...	12 0 0	2 0 0	14 0 0	5 0 0	...
...	564 0 0	141 0 0	705 0 0	835 0 0	...
...	972 0 0	194 0 0	1,166 0 0	390 0 0	...
...	52 0 0	6 0 0	58 0 0	40 0 0	...
...	477 0 0	53 0 0	530 0 0	109 0 0	...
...	339 0 0	96 0 0	435 0 0	145 0 0	...
...	7,124 0 0	870 0 0	7,994 0 0	940 0 0	...
...	5,735 0 0	845 0 0	6,580 0 0	1,090 0 0	...
...	98 0 0	9 0 0	107 0 0	26 0 0	...
...	1,86,680 0 0	50,299 0 0	2,36,979 0 0	1,01,430 0 0	718 0 0
		Deduct deficit		718 0 0	...
		Balance for the Department ...		1,00,712 0 0	...

G. GREIG,
Conservator of Forests, N.-W. Provinces.

FORM No. 60.

Forest Department, North-Western Provinces.

Abstract showing the value of Timber and of Live and Dead Stock for the year 1877-78.

Description of timber and other stock.	On hand at commencement of the year.		Received during the year.		Total.		Sold, otherwise disposed of and lost during the year, and allowance for depreciation.		On hand at close of the year.		Cause of loss and other particulars.
	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value	
Kumaun Division.		Rs.		Rs.		Rs.		Rs. a. p.		Rs.	
Sál logs ...	430	30,956	...	...	430	30,956	229	*18,306 0 0	201	12,650	* Includes Rs. 15 for 9′8″8‴ cubic feet of timber sent to the Paris Exhibition.
„ karis ...	29,930	50,142	12,142	19,399	42,072	69,541	27,481	†45,714 0 0	14,591	23,828	† Includes 3 karis, worth Rs. 6, used for departmental purposes.
„ other kinds ...	305	1,993	118	285	423	2,278	306	‡605 0 0	117	1,673	‡ Includes 6 karis, worth Rs. 4, used for departmental purposes.
Haldu, all kinds ...	1,389	1,383	584	345	1,973	1,728	1,478	1,054 0 0	495	674	
Timber, other kinds ...	5,210	5,650	14,031	20,876	19,241	26,526	9,787	§18,696 0 0	9,454	7,830	§ Includes Rs. 6 for 11 cubic feet of timber sent to the Paris Exhibition.
	37,264	90,124	26,875	40,905	64,139	1,31,029	39,281	84,374 0 0	24,858	46,655	
Elephants ...	2	4,000	...	...	2	4,000	...	...	2	4,000	
Tools and plant, &c. ...	4,030	5,061	274	697	4,304	5,758	51	42 0 0	4,253	5,716	
Buildings ...	11	7,456	4	3,697	15	11,153	...	...	15	11,153	
Gunpowder ...	lbs. 600	600	800	800	1,400	1,400	1,000	1,000 0 0	400	400	
Total ...	41,907	1,07,241	27,953	46,099	69,860	1,53,340	40,332	85,416 0 0	29,528	67,924	
Naini Tal Sub-division.											
Firewood ...	...	... Mds.	27,130	5,181	27,130	5,181	27,130	5,181 0 0	...	...	
Tools and plant, &c., ...	6,535	956	29	59	6,564	1,015	21	128 0 0	6,543	887	
Chauki ...	...	...	1	50	1	50	...	...	1	50	
Total ..	6,535	956	27,160	5,290	33,695	6,246	27,151	5,309 0 0	6,544	937	

Ránikhet Sub-division.												
Tools and plant ...	‖4,137	711	2,143	1,431	6,280	2,142	1	0 6 0	6,279	2,142	‖ Fencing staples and strainers were omitted last year from the enumeration of articles.
Buildings ...	7	3,350	...	...	7	3,350	...	...	7	3,350	
Total ...	4,144	4,061	2,143	1,431	6,287	5,492	1	0 6 0	6,286	5,492	
Garhwál Division.											
Sál logs ...	27	1,094	...	16	27	1,110	27	} 1,302 0 0	...	...	¶ In last year's form these 7 sál kolus were included under "sál, other kinds."
„ kolus ...	¶7	192	...	...	7	192	7				
„ karis ...	64,274	89,509	6,245	7,663	70,519	97,172	17,319	15,688 0 0	53,200	81,484	
„ other kinds ...	4,918	54,491	3	16	4,921	54,507	1,036	12,561 0 0	3,885	41,946	
Sein logs ...	**502	6,808	403	6,033	905	12,841	905	12,841 0 0	...	...	**In last year's form these 502 sein logs were included under "timber, all other kinds."
„ karis ...	...	...	40,861	39,447	40,861	39,447	40,861	39,447 0 0	...	...	
Timber, all other kinds (including bamboos)	16,041	7,276	47,810	6,922	63,851	14,198	59,821	11,942 0 0	4,030	2,256	
	85,769	159,370	95,322	60,097	18,091	219,467	119,976	93,781 0 0	61,115	125,686	
Elephants ...	2	3,000	...	...	2	3,000	...	...	2	3,000	
Tools and plant, &c. ...	3,027	2,533	55	592	3,082	3,125	18	125 0 0	3,064	3,000	
Buildings ...	4	5,022	1	250	5	5,272	...	...	5	5,272	
Total ...	88,802	169,925	95,378	60,939	184,180	230,864	119,994	93,906 0 0	64,186	1,36,958	
Dehra Dún Division.											
Sál karis ...	4,679	7,820	10,463	10,463	15,142	18,283	5,222	7,038 0 0	9,920	11,245	
„ other kinds ...	175	263	...	...	175	263	70	175 0 0	105	88	
Timber, other kinds ...	48,695	20,105	25,939	9,727	74,634	29,832	3,389	1,867 0 0	71,245	27,965	
	53,549	28,188	36,402	20,190	89,951	48,378	8,681	9,080 0 0	81,270	39,298	
Elephants ...	...	14,000	...	...	7	14,000	...	...	7	14,000	
Tools and plant, &c. ...	2,288	2,933	498	493	2,786	3,426	745	636 0 0	2,041	2,790	
Buildings ...	1	774	...	...	1	774	...	...	1	774	
Total ...	55,845	45,895	36,900	20,683	92,745	66,578	9,426	9,716 0 0	83,319	56,862	

FORM No. 60.

Forest Department, North-Western Provinces.

Abstract showing the value of Timber and of Live and Dead Stock for the year 1877-78—(concluded).

Description of timber and other stock.	On hand at commencement of the year.		Received during the year.		Total.		Sold, otherwise disposed of, and lost during the year, and allowance for depreciation.				On hand at close of the year.		Cause of loss and other particulars.
	No.	Value.	No.	Value.	No.	Value.	No.	Value.			No.	Value.	
Jaunsár Division.		Rs.		Rs.		Rs.		Rs.	a.	p.		Rs.	
Deodar timber (including sleepers.)	40,064	33,619	101,814	2,04,757	141,878	2,38,376	82,625	1,62,647	0	0	59,253	75,729	The "description of timber and other stock" in the Jaunsár Division has in this year's statement been given in greater detail than in last year's. Fuel is given by measurement (cubic feet) and not by weight (maunds.)
Rai timber of all kinds ...	1,837	2,855	1,664	1,218	3,501	4,073	2,517	3,078	0	0	984	995	
Oak and sál ballis ...	...	...	115	429	115	429	115	429	0	0	...	..	
Chír karis, &c. ...	17,734	35,347	821	...	18,555	35,347	5,715	17,288	0	0	12,840	18,059	
	Cub. feet.		Cub. feet.		Cub. feet.								
Oak and fir fuel ...	64,016	9,863	225,839	37,464	289,855	47,327	129,567	19,323	0	0	160,288	28,004	
	123,651	81,684	330,253	2,43,868	453,904	3,25,552	220.539	2,02,765	0	0	233,365	1,22,787	
Tools and plant ...	1,070	3,566	350	784	1,420	4,350	70	310	0	0	1,350	4,040	There are some *nominal* entries relating to Jaunsár on both sides of the annual timber account (form No 56) These, as far as the chír karis are concerned, have not been included in the receipts and disposals in this form (No. 60)
Buildings ...	33	22,520	1	5,000	34	27,520	...	...			34	27,520	
Gunpowder ...	...	...	lbs. 5,400	2,700	lbs. 5,400	2,700	lbs. 4,500	2,250	0	0	lbs. 900	450	
Elephants ...	1	2,000	...	...	1	2,000	...	..			1	2,000	
Total ...	124,755	1,09,770	336,004	2,52,352	460,759	3,62,122	225,109	2,05,325	0	0	235,650	1,56,797	
Bhágirathi Division.													
Deodar sleepers (very inferior) and miscellaneous timber.	2,179	181	48,278	1,14,391	50,457	1,14,573	50,429	1,14,570	0	0	28	2	
Firewood ...	Mds7,344	952	Mds. 970	105	8,314	1,057	8,314	1,057	0	0	...	...	
	9,523	1,133	49,248	1,14,496	58,771	1,15,629	58,743	1,15,627	0	0	28	2	
Tools and plant ...	2,541	5,624	...	...	2,541	5,624	*25	*50	0	0	2,516	5,574	* Allowance for depreciation.
Buildings ...	6	14,300	...	...	6	14,300	...	...			6	14,300	
Gunpowder ...	lbs. 635	985	...	...	lbs. 635	985	...	...			lbs. 635	985	
Total ...	12,705	22,042	49,248	1,14,496	61,953	1,36,538	58,768	1,15,677	0	0	3,185	20,861	

Jhánsi Division.										
Timber (including bamboos),	79,242	551	J603 L146,029	J52 L745	225,874	1,348	J2,315 L98,518	J142 0 0 L541 0 0	J2,491 *122,566	665
Buildings ...	1	8	...	...	1	8	...	...	1	8
Tools and plant ...	2	5	...	...	2	5	...	...	2	5
Country carts ...	...	...	12	219	12	219	...	...	12	219
Bullocks ...	...	...	14	130	14	130	...	...	14	130
Total ...	79,245	564	146,658	1,146	225,903	1,710	100,833	683 0 0	125,070	1,027
Rohilkhand Division (Bijnor).										
Sál ballis ...	55	15	695	177	750	192	750	192 0 0	...	...
Waif wood ...	972	500	626	368	1,598	868	1,598	868 0 0	...	...
Total ...	1,027	515	1,321	545	2,348	1,060	2,348	1,060 0 0	...	...
All Divisions.					*Summary of above.*					
Timber (including firewood),	390,025	3,61,565	713,183	4,86,079	1,103,208	8,47,644	577,531	5,12,551 0 0	525,677	3,35,993
Buildings ...	63	53,430	7	8,997	70	62,427	...	...	70	62,427
Tools and plant ...	23,630	21,389	3,349	4,056	26,979	25,445	931	1,291 0 0	26,048	24,154
Elephants ...	12	23,000	...	...	12	23,000	...	...	12	23,000
Bullocks ...	...	...	14	130	14	130	...	...	14	130
Country carts ...	...	...	12	219	12	219	...	...	12	219
Gunpowder ...	lbs. 1,235	1,585	6,200	3,500	7,435	5,085	5,500	3,250 0 0	1,935	1,835
Grand Total ...	414,965	4,60,969	722,765	5,02,981	1,137,730	9,63,950	583,962	5,17,092 0 0	553,768	4,46,858

* 122,550 Lalitpur.

Appertain to the Lalitpur Division of the Jhánsi district.

Difference in value at commencement and close of the year—Rs. 14,111 against the year.

NAINI TAL:
The 6th August, 1878.

G. GREIG,
Conservator of Forests, N.-W. Provinces.

OUDH PROVINCE.

ANNUAL PROGRESS REPORT
OF
FOREST ADMINISTRATION
FOR THE YEAR 1877-78.

By Captain K. Wood, Conservator of Forests, Oudh.

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III.—Unreserved or district Forests (blank).

IV.—General remarks.

I.—SUMMARY OF ADMINISTRATION DURING THE YEAR.

In June, 1877, the Bareilly and the Gorakhpur forests were made over to the charge of the Oudh Conservator.

2. The Bareilly forests are the northern portion of the cis-Sárda sál forests, in the plains, which stretch from near the foot of the hills along the right of the old or high bank of the Sárda to Gola Gokurnáth on the south-east, and along the Katna nadi on the south-west to the limits of the natural sál producing forests; the southern portion of the cis-Sárda forests form the Bhira sub-division of Kheri. The Bareilly forests have been worked in two portions, namely (1), the Pilibhít, which lie to the north-east of pargana Pilibhít, bounded, roughly speaking, on the north by the Tarái parganas, on the east by the Mala swamp, which divides it from the Puranpur forests, and on the west by cultivation; and (2) the Puranpur forests, which are in pargana Puranpur, and are of horseshoe form, the interior being rather inferior cultivated lands, the west boundary being the Mala swamp, the north the Tarái parganas, and the east the Chauka nadi (which mostly flows in the old bed of the Sárda), and the high bank of the Sárda after the junction of the Chauka and Sárda.

3. The Bareilly forests have been frightfully overworked, every straight sál pole of over about three inches diameter being cut over for making thatches, and field fences. Mr. Grieg gave a full report of these forests and recommended certain portions to be closed. Arrangements have been made for cutting the division lines proposed by Mr. Grieg, but a great deal will have to be done before further conservancy arrangements can be made. It is quite refreshing to cross the border either into the Tarái parganas, where the Superintendent has for some years protected a small block, where good sized (though crooked) stems are coming on, or into Oudh into the Bhira sub-division, where the forests have been protected for some years and where there are dense forests of tall straight young poles.

4. The Bareilly forests are under the care of the Collector of the district with an establishment perfectly unfit for conserving the forests. Proposals for a proper establishment will be made as soon as possible.

5. The Gorakhpur forests consist generally of small isolated patches of sál, there being no timber trees in them fit for works of construction, except in the northern or Nagwa and Sonári forests, and most of these have been so tapped for resin that they will never form large good mature timber; however, the whole forests mainly consist of straight young poles, the principal tree being sál, the others the usual trees found in company with sál. The forests have one great advantage in their isolated position, they are surrounded by cultivation so that no fires can come in the forests from without, the only exception being the Nagwa and Sonári forests in the north where Government grass lands outwardly adjoin and inwardly divide the forests. There has been some correspondence on the subject of these grass lands: the lands were once made over to the Forest Department and afterwards taken away again, and as the lands will hardly ever be cultivated, if there were no distinction between imperial and provincial revenue, there is no doubt that from a forest point it would be most desirable that the grazing lands should be in the hands of the Forest Department.

6. The Gorakhpur Division is in charge of a Deputy Conservator. It is about the size of an Oudh sub-division, of which there are six; though only about three-fourths the extent of the Bareilly Division. It has a forest establishment costing more than 11 times that of Bareilly, and though its area is about one-seventh of Oudh, its forest establishment costs about one-half that of Oudh, and it has actually more foresters than the whole of Oudh; but the forests are more isolated than in Oudh, and the fire conservancy costs, for the area preserved, much less in temporary establishment than in Oudh.

7. No orders have yet been received on the special commission, and the accounts branch have called attention to the large outstandings for grazing dues.

8. This year the greatest money surplus has been realized; at the same time the most progress has been made in works of conservancy and improvement.

9. The additional forests will entail a different arrangement of Forest Divisions, and His Honor the Lieutenant-Governor, North-Western Provinces, and Chief Commissioner for Oudh has sanctioned the formation of three divisions as below:—

1st or Cis-Sárda Division ...	Bareilly Division. Bhira Sub-division. (Market, Bareilly and Sháhjahánpur.)
2nd or Trans-Sárda Division ...	Newalkhar Sub-division. Khairigarh „ Motipur „ with Bahrámghat Depôt for the sale of produce.
3rd or Rapti Division ...	Bhinga Sub-division. Gonda Division. Gorakhpur Division. (Market, Gorakhpur.)

10. The details of establishment have to be arranged for; the markets for these divisions are pretty distinct.

11. Bahrámghat has so far answered that a market has been found for our timber, and we could not supply all indents sent in, but on the other hand the officer in charge neglected the work, and delayed completing indents, when there was no necessity for doing so: his services have been dispensed with.

12. Late in the year under review the services of Mr. Campbell, Sub-Assistant Conservator, were obtained, and after the close of the year another Sub-Assistant Conservator, Mr. Rebsch, joined the department. Mr. Ponsonby, Deputy Conservator, was in Europe.

13. No changes were made in office or forest establishment owing to additions of Bareilly and Gorakhpur to the Conservator's charge, and the work has been very heavy on every one, particularly with the new system of accounts. Separate offices were kept as below:—

1—Direction.	5—Bhira.
2—Bareilly.	6—Bahraich.
3—Newalkhar and Khairigarh.	7—Gonda.
4—Bahrámghat.	8—Gorakhpur.

14. The forest charges were as below :—

1	Bareilly—Collector of the District.	
2	Bhira ... ... / Newalkhar ... ... / Khairigarh	Mr. Dodsworth, Officiating Deputy Conservator. Mr. Campbell, Sub-Assistant Conservator, on probation, joined only six weeks before end of official year.
3	Motipur ... ... / Bhinga ... ... / Gonda	Mr. Wilmot, Assistant Conservator.
4	Bahrámghat Depôt	... Mr. Hillier, Assistant Conservator.
5	Gorakhpur	... Mr. Allan, Deputy Conservator, Mr. Grant, of the present Central Circle, having had charge till June.

II.—RESERVED FORESTS.

1.—Area and Boundaries.

15. **Bareilly Division.**—The area of these forests is about 168 square miles.

16. There is no regular boundary laid down on the ground further than the masonry tri-junction pillars, the old temporary mud pillars on which the revenue survey was made have been washed away, and there was no dághbel* between them. This work is being started, and it is hoped will be completed before the end of present financial year ; sál posts will be placed at the minor angles and a line one foot broad and 6 inches deep at the middle be dug between adjoining posts. The work is to be done quickly for Captain Bailey's survey, otherwise a three feet ditch would have been made at once ; this will follow as the small dághbel soon gets obliterated in some soils.

2.—Protection and Improvement.

17. There was none to speak of during the year, the money spent on roads being spent more on the roads in the vicinity of the forests than on roads in the forests themselves. Arrangements are, however, being made to mark off for closed reserves the areas recommended by Mr. Greig. After the long course of independence of the people in the vicinity of the forests from all restraint in the use of forest produce, the measures for protection and improvement will have to be gradual.

3.—Yield and Working.

18. All people helped themselves pretty much as they liked on paying the very small fees in force in Pilibhít, and on payment of still smaller fees to the contractor in Puranpur.

4.—Financial Results.

19. The income was smaller than usual owing to the food scarcity—

	Rs.
The revenue being	6,583
The expenditure...	2,342
And the surplus	4,241

1.—Area and Boundaries.

20. **Kheri Division.**—In Bhira the area remains practically the same, but four miles have been deducted for the land made over to grantees which had not been considered in former area statements. Trans-Sárda the area remained the same.

21. The dághbeling of the whole of the Bhira sub-division was completed with the exception of a small portion where the bed of the Ul is the boundary (this however has since been settled and marked off).

22. Trans-Sárda all boundary disputes have been settled, and besides repairing the dághbel over 21 miles of three feet ditching have been dug at a cost of Rs. 557. In the Newalkhar sub-division, the 1st section, consisting mostly of grass lands, is

*Note.—The word "dághbel," as used in this report, is explained in the latter part of this paragraph.

about the only part where the outer boundary is not completed with the three feet ditching; in the Kháririgarh sub-division the outer boundary was being pushed on in the financial year under review, and has since been completed. The inner boundary where the forests surround cultivation has not been taken in hand, as the taking up the villages by the Forest Department is under consideration.

2.—PROTECTION AND IMPROVEMENT.

23. In Bhira the Bhira-Mailáni road was completed, joining the two villages, and was much used, and will be more so when some wells can be built at suitable halting places. Trans-Sárda it was difficult to push on new roads on account of the price of food, on this side the frontier keeping away the usual supply of hill men, and most of the available labourers being put on the most urgent works, as selection fellings, &c. However, about 40 miles of new road were laid out, and where the roads passed through village l nds (many of the roads being designed to connect important forest roads, and forest roads with depôts), the land was taken up and measured, and 10 miles were completed, and the principal road through village lands, namely, the one between the east of the forests and the Korialli at Rámnagar, though only marked out, was of much use in facilitating timber operations. All old roads were repaired, but owing to the heavy rains were much cut up.

24. *Bridges.*—In Bhira the road where it crosses the bed of rivers was slightly embanked; the beds are very broad and shallow, and it is not considered necessary at present to bridge them. Trans-Sárda the usual permanent bridges were kept in repairs, and the usual temporary ones over the Soheli and other nálas were erected and kept in good order. Mr. Dodsworth's low level pile bridge on the Jauraha (referred to in para. 27 of last year's report) answered admirably; though the piles were only shaken in there has been no sinking, and it will bear the heaviest elephant with but little movement. Mr. Dodsworth had not time to finish up the iron work, and a few sleepers were washed away, but recovered quite near the bridge though the roadway was eight or ten feet under water during the floods.

25. *Buildings.*—In Bhira the Gola rest-house was got well in hand and has since been finished. Trans-Sárda, the site for a rest-house at Bily Ryan Deb, east of the forests, from which the new road runs to the Korialli, was cleared, and arrangements made for materials. This place will be to the Kharigarh sub-division what Dadua is to the Newalkhar, and near this fire conservancy will be started when feasible. A masonry smithy and storehouse for tools were completed at Dadua.

26. *Wells. Bhira.*—Owing to having no officer in direct charge, no wells, except one at the Gola rest-house, were attempted. Trans-Sárda, all the wells on the low ground have turned out very successful, a plentiful supply of fresh water always being obtained by percolation from the Soheli. On the high ground the wells, though many feet below the level of the wells on the low ground, give but little water (it may be partly owing to the extreme drought), they were dug out again and the cylinders sunk several feet, and it is now hoped will give plenty of water in the driest seasons. Owing to this work having been taken in hand and the difficulty in obtaining bricks, owing to unfavourable weather, not much progress was made with new wells.

27. *Tanks.*—In Bhira great scarcity of water prevailed, not allowing the legitimate grazing grounds to be fully utilized. An experimental tank will be dug this year in the large open plain of Murha, where the water level is not very deep, and where it is hoped that a permanent supply of water for cattle will be obtained. This will be carefully watched, for if it succeeds, a large amount of grass land will be made more profitable for grazing, allowing us to close more of the tree forests against grazing.

28. *Rivers.*—The Soheli was as usual cleared of snags, but owing to the drought not so much timber as was desirable was got down, but the rain came just in time in October to let us get a certain quantity to market. The Jowraha and Nowra could not be taken in hand, both on account of scarcity of labour and supervision. There was great difficulty in ratting on the Korialli and Gogra owing to the drought.

29. *Demarcation.*—Demarcation has already been reported on in boundaries.

30. *Working plans.*—No alteration took place in the usual working plan, except that the selection fellings took place at the east of the forests along with the Patna fellings, and it was fortunate that they did so, as the timber being carted direct to Rámnagar on the Korialli, we were enabled to keep the market well supplied which we could not have done had we felled as usual and carted to the Soheli.

31. *Plantations.*—No regular plantations were made during the year. The small experimental bamboo plantation near Dadua is doing very well, the plantation was from seed. In the small upland sissu plantation in the Sarota phanta, where the broadcast system was adopted, the young sissu is just overtopping the grass about four feet high and looking remarkably well; in the trench system there are no plants surviving.

During the season small experimental plots have been tried alongside the above.

No. 1.—Land hoed up, ploughed, cleared of grass and weeds, and seed sown broadcast.

No. 2.—As above, in alternate strips of cultivation and grass, each 15 feet broad, broadcast.

No. 3.—Strips as above, cultivation 2 feet broad, 13 feet grass, each slightly levelled at the edge of the two feet strip and raised in the centre, broadcast.

No. 4.—Broadcast sowing in plots 2 feet square and 13 feet from edge to edge, edges same as in No. 3 broadcast.

No. 5.—Seed sown broadcast without any preparation of the soil.

No. 6.—New trench system as per margin; trench 1′×1′ and length of plot, ground dug deep, the grass roots put in corner of trench and the pulverised earth replaced, the new earth being slightly higher than the country on the opposite corner from where the roots were placed.

No. 7.—Same as above, but in plots 1′ square and 15′ from centre to centre.

No. 8. Ten ridges of the old trench system that failed put in shape of new trench system and sown with seed in the same manner.

No. 9. Holes 1′ square and 18″ deep were excavated for transplants. For the seedlings to transplant, the seed was sown between two semi-circular tiles put upright in the ground. All the seeds on being watered, germinated, but the seedlings were eaten by grasshoppers; seedlings can be obtained however from thinnings from broadcast sowings, or seedlings can be sown at a more favourable period. Seed was also sown for experimental transplants in the low Soheli ground.

32. *Natural reproduction of Sissu.*—The natural sown sissu in the protected lower sissu Dadua home block is doing splendidly, and not only sissu but semul, tún, jámun and other young growth is coming on where before there was no young growth whatever. A small block was enclosed on the right bank of the Soheli in addition to the regular home block, including the low land near the Soheli and separated from the unclosed forest by a straight fire line.

33. *Natural reproduction of Sál.*—Sál flowered and seeded in March-May, 1878, and the month of May being showery many seedlings have germinated.

34. *Fire conservancy.*—In Bhira half the Dhaniapur reserved block was fired. Owing to the ranger not being up to the work, and the forester not obeying orders, the ranger has been transferred: arrangements are being made to extend this block. Trans-Sárda.—The area of the Dadua Home block remained the same, though this year the area appears as 25 square miles, whereas last year it was reported as 30 square

miles. This is owing to the fact that last year the whole area reported on was counted, whereas this year only the tree forest protected is taken into consideration. Only small fires took place within the Dadua home block; these were estinguished without much harm being done. One of the causes of the evil, old winding cart tracks that are not under supervision, will be stopped by straight roads being made in their place. These effects of fire conservancy in sissu ground have been shown in para 32; in the sál forest the effects are as palpable, the young growth being wonderful. The principal thing now wanting, in my opinion, is the removal of the old rotting and deteriorating trees that, having done their work, are now only retarding the young growth. It is not considered advisable at present to extend the area of the Dadua home block, as it would be shutting up too large an area in one neighbourhood, so that it is proposed to start fire conservancy in the Khairigarh sub-division as soon as arrangements can be made. Mr. Dodsworth, who crossed the border and saw the Nepal forests, says that he and others with him were struck with the difference between the Nepal and Oudh Forests, in the former there being no regenerating crop to replace the old trees, whereas in Oudh there was a splendid one.

35. *Improvement fellings.*—Trans-Sárda the improvement fellings could not be continued, but the growth in the Dadua home block, where former improvement fellings took place, is most satisfactory; the ground is covered with a complete crop, mostly sál coppice from young stools being remarkable; there are a fair number of miscellaneous trees which coppice in a branchy way (whereas sál grows up perfectly straight) and show more than their numbers would seem to justify. There are, however, numberless sál seedlings, and in a few years it may be expedient, in order to bring forward the sál seedlings, to remove the miscellaneous coppice trees, which are now sheltering the sál seedlings, but which they will soon be overshadowing.

36. *Experimental cuttings.*—In Bhira the experimental cuttings have succeeded as I anticipated, a growth of about 7 feet (in some cases 10 feet) of straight single stems having come up in 12 months from roots of small trees that were cut level with the ground; this too in the acres entirely cut over, which I thought might be damaged by frost. I would not, however, advocate large broad areas being cut clear over, but in strips or cutting out, say half the worst trees by selection, so as to get half shade; as there is a risk in clearing too broad an area, as has been found in Gorakhpur, where, some years ago, a large area in Rámgarh was clear cut over and never recovered, whereas in another place as large an area was cut over, and there the average height of the trees is about 15 feet, and the ground well stocked.

37. *Creeper cutting, Trans-Sárda.*—The creepers were cut in portions of forest in and near the Dadua home block.

38. *Offences against the forest rules.*—The officer in charge of both of the Bhira and Trans-Sárda sub-divisions, complains of the difficulty in getting offenders brought by the police before the Magistrates, but I trust that with the new Forest Act and rules this will not occur in the future. I have recommended that divisional forest officers should have Magisterial powers, and I believe that the mere knowledge of divisional forest officers having such powers will deter men from committing crimes.

3.—Yield and Working.

39. In Bhira as usual the amount of wood removed by purchasers was small, there being at present no market to speak of, the grantees, who are clearing their own forests, being sellers and many villages having their own forests.

40. *Selection fellings, Trans-Sárda.*—The usual selection fellings of some 3,000 trees, and some 2,000 for the Patna contract took place in the eastern portion of the forests; the localities will be found in form No. 53. We have now felled some 42,380 sál, arsegna and haldu trees, giving in the 17 years operations 2,492 trees per annum. The Government of India has reduced the number of trees to be felled for present year to 2,000, allowing anything wanted for the Patna contract to be cut extra. There was

great difficulty in getting labour, as before mentioned, but Mr. Dodsworth managed to get the work done, and well.

Carting.—Of the fellings of January, 1877, 2,143 logs were carted to Dadua depôt and 2,191 of the eastern fellings carted to the Rámnagar Depôt.

Rafting.—Great difficulties were experienced in rafting, and Mr. Dodsworth deserves great credit for the manner in which under the greatest difficulties he managed to get a large quantity of timber to Bahrámghat.

4.—Financial Results.

41. In Bhira the revenue is increasing very slowly but steadily, at the same time the expenses are increasing, but now something is being done. The results of the past seven years are given below:—

	Receipts.			*Charges.*		
	Rs.	a.	p.	Rs.	a.	p.
1871-72	1,479	11	6	450	15	5
1872-73	4,422	15	2	1,319	11	4
1873-74	4,786	4	2	4,455	8	2
1874-75	3,517	14	4	1,978	2	4
1875-76	4,090	3	5	1,995	6	11
1876-77	4,662	4	3	4,327	14	2
1877-78	5,582	3	1	7,421	12	10

The experiment of allowing cattle to graze at half-rates during the rains only brought in an extra Rs. 140 (777 cows, and 242 buffaloes). Trans-Sárda not much timber was sold in the forests, either from depôt or removed by purchasers, owing to the scarcity which prevented small men investing their capital in logs, and getting a small profit, and employment for their carts. However, the sales at Bahrámghat have been heavy, but a large amount came in from the Patna contract for the year under review, and for the former year, and a reduction has been made in the value of the stock at Bahrámghat. In the whole division the receipts were Rs. 2,44,474, and expenditure Rs. 1,34,837, giving a surplus Rs. 1,09,637, which might have been increased had the operations at Bahrámghat been conducted as economically as they were in the forests.

1.—Area and Boundaries.

42. **Bahraich Division.**—The area remains the same as before.

43. *Boundaries.*—The boundary is being formed by a three feet ditch, the progress in which will be shown under demarcation. Sál posts were used in the minor angles of the boundaries. The Chakia boundary, with Nanpára, was not taken in hand during the year, owing to a misconception on the part of the district officer; there are a few boundaries open to question, but we cannot do more than a certain amount of ditching in the year. The survey map of the Nepal boundary has been published by the Survey Department. Some correspondence has taken place regarding the formation of a line of road along the Nepal boundary in cultivation (to replace the present zig-zag boundary) the same as in the forests, but it is believed that the district officer is against the plan.

2.—Protection and Improvement.

44. *Roads.*—The Motipur division has hitherto been neglected, compared with Bhinga, and this year most of the works of improvement were carried out in Motipur, a sub-division full of splendid young growth, and advantageously situated near water carriage for the Bahrámghat market; 27¼ miles of new road were made.

These new roads are chiefly part of the plan of fire conservancy operations at Nishangarh in the 2nd section of the Motipur sub-division, and some take the place of well used tracts from Nepal. Some roads in the Bhinga sub-division which were much used were widened. The annual repairs were made to old roads. Arrangements were made with the district officer for a road to communicate from Nishangarh through cultivated land to Sujauli, one of the rafting depôts of the Motipur sub-division.

45. *Bridges.*—Three new timber bridges were made in the Charda forests at a cost of Rs. 350, as they were more for the public than the Forest Department; the district contributed Rs. 180 towards their cost. Two similar bridges were commenced on the Nishangarh-Sujauli road. The department gave 1,783 cubic feet of timber towards building district bridges near the forests.

46. *Buildings.*—The second-class and inferior rest-houses were repaired and improved. Progress was made in brickmaking for new rest-houses, also in preparing timber and lime. The thanks of Government in this department are due to the district officer for making arrangements, and to taluqadar Sarabjit Shah and the Rája of Manpura for giving land for brick earth, little of which is to be found in forest limits.

47. *Wells.*—A masonry well on the long line between Motipur and Nishangarh at the Murtiha junction was completed; progress was made in the masonry wells at Nishangarh* and Dharmapur,† but brick burning was rendered difficult on account of the unseasonable rainy weather in the working season. Great progress has, however, since been made in preparing bricks‡ for new wells which are to be built, and without which fire conservancy is rendered very difficult, there being no water on the high ground, and only jhíl water being procurable on the low.

Owing to the drought the water level in the wells on the high ground fell some four feet in the Motipur sub-division; one well in the Bhinga sub-division dried up.

48. *Demarcation.*—In the Motipur sub-divsion 58¾ miles of three feet boundary ditching were completed, and in the Bhinga sub-division about 21¾ miles, at 25 per mile; 175 sál boundary posts were erected at about six annas per post.

49. *Natural reproduction and growth.*—Mr. Wilmot reports very favourably on the young growth about Nishangarh and of reproduction of sál and arsigna. In the Charda forests the growth appears not to be so favourable as at Nishangarh, the soil not being so rich; but the good done by protection in the Bhinga forests is apparent not only in the improved growth in the areas protected of the standing crop, but in the increased number of seedlings, this being specially noticeable in block No. 3. Bhinga.—Sissu is also coming up in the watercourses in the 8th section. About one-third of the sál trees seeded in the spring of 1878 and the season was favourable for germination.

50. *Protection from fire.*—The Nishangarh home block of some 19½ square miles of fine young sál was attempted to be protected, but 8½ square miles were burnt over, chiefly owing to fires being lit on purpose by shikáris and others from Nepal, leaving 11 square miles secured. Protection will be easier when the wells are completed as it is impossible to keep large parties of coolies in the forests without water, and it is hoped that arrangements will be made with General Kedar Nar Sing of Nepal to prevent the intrusion of people from Nepal. The Charda forests were protected as usual, as were also the experimental blocks in section 6, Bhinga, and block No. 3, Bhinga, section 7. Besides this regular protected area nearly the whole of the Bhinga forests escaped from fire.

51. *Lac.*—Mr. Wilmot is conducting a small experiment, cost Rs. 56-8-0, with lac in section 3 south of Motipur, and proposes carrying it on in the fire protected forests north of it, so as to carry it on under the most advantageous circumstances.

3.—Yield and Working.

52. About a lakh and a quarter of cubic feet of all kinds of timber were removed by purchasers during the year, the principal revenue coming from Kusumb line fellings, about 1,000 dead and dying sál trees, and some green sál trees in an outlying portion, which will be given over for grazing, being surrounded by cultivation and being situated where reproduction cannot be expected. The railway authorities have raised the price of carriage of fuel from Bahrámghat to Lucknow, and as

* Since completed with 12 feet of water in it, depth 52 feet.

† Since completed except top of cylinder, depth of water 10 feet.

‡ 56,000 since burnt.

the river left the depôt where a lot of our fuel was stacked near the forests, we could not afford to cart it again as there was no margin left for profit: from these reasons and the difficulties attending the rafting fuel operations were small.

4.—FINANCIAL RESULTS.

53.	The receipts were ...	... Rs.	1,14,721
	Expenditure ...	... ,,	29,606
	and surplus ...	... ,,	85,115

The revenue was exceptionally high owing to arrears coming in, both for timber and minor forest produce.

1.—AREA AND BOUNDARIES.

54. **Gonda Division.**—The area remains the same as before, and there have been no alterations of boundaries; the work performed will be found under "Demarcation."

2.—PROTECTION AND IMPROVEMENT.

55. *Roads.*—The division, situated so far from the principal works in the Bahraich Division, could only be inspected once, but what little work that was entrusted to the ranger was done well. There are few roads in Gonda owing to the broken nature of the ground, and there has been no officer in direct charge for the last five years. A 100 foot road 950 yards in length was made for cattle to go to water. A grievance was made out when I went to Gonda on special commission that cattle could not get to water; it is not much used, but by making it a cause of complaint has been removed. What really was wanted, was for the cattle to graze in the Government forests. Twenty-one and a half miles of 40 feet boundary line between Government forests and those of the Maháraja of Balrámpur were cleared, 10 feet in width, and made passable for elephant and horses, as the nálas, as a rule, are very broad and deep and dry: except in the rains it would not pay to bridge them. The lines also dividing sections were cleared for traffic.

56. *Buildings.*—The bungalow at Bhagwanpur was repaired and improved. The bungalow in Rámgarh grant was burnt: this was not much loss, the repairs to a large thatched bungalow would have been heavy, and the grant is seldom visited by forest officers, being a long way from the main division.

57. *Wells.*—The only two wells in the division were cleaned out.

58. *Demarcation.*—Four hundred and ninety-six sál boundary posts were erected in the main division and 18 in Ramgarh, the cost being six annas each; 43 masonry pillars in Ramgarh were repaired, 23½ miles of dágbbeling on the southern boundary was repaired, and of the 60 miles of Nepal boundary 36½ miles were cleared of forest growth.

59. *Growth.*—The growth in the eastern section is good.

60. *Protection from fire.*—Proper fire conservancy cannot be attempted till an officer is in direct charge. The ranger has to be in other parts of the division, sometimes at Ramgarh, sometimes at Gonda, for the prosecution of offences: the forests escaped fire generally.

61. *Creepers.*—A few creepers were cut at the expenditure of Rs. 36.

3.—YIELD AND WORKING.

62. The revenue was not large owing to the food scarcity. It is calculated, at 4 annas per cubic foot, that some 22,000 cubic feet of miscellaneous timber was removed, but 35,000 seems nearer the mark as the price of the timber is below four annas per cubic foot on an average.

63. 4.—FINANCIAL RESULTS.

	Rs.
The revenue was	7,808
The expenditure	3,995
Giving a surplus	3,813

The falling off of revenue is due to the food scarcity, the surplus is a good deal owing to saving in expenditure, the ranger, being continually called away to the sadr, not having time to superintend more works than he did.

1.—Area and Boundaries.

64. **Gorakhpur Division**—The area and boundaries remain the same as before.

2.—Protection and Improvement.

65. *Roads.*—There are no regular forest roads in division, but directions have been given to make roads along some of the principal fire paths, taking out stumps and filling up holes, &c.

66. *Buildings.*—The rest-houses in the division are very poor ones; better accommodation for a European officer in the hot winds, the time that jungle fires are prevalent, is urgently required. I have sanctioned the building of a thatched bungalow at Sakni.

67. *Wells.*—The health of the subordinates suffers greatly from want of wells. There is only one, an old one repaired by the Forest Department, at Rámgarh. I have ordered one at Sakni, an important forest depôt. More will have to be made.

68. The river communications from the forests to Gorakhpur could at little expense be made, almost like canals in the rains ; a little snag removing is the principal thing required.

69. *Demarcation.*—Most of the boundary pillars that required repairs were repaired. Almost all disputes regarding boundary have been settled. A 3 feet ditch is required and will be made as soon as possible.

70. *Plantations.*—Former attempts at plantations for teak, tún and bamboos have been failures, the only successful tree being sissu, which grows well, but wants great care and expense to make it thrive.

71. *Production and growth.*—Sál flowered in March, 1878, but, as a rule, seedlings are scarcely required, as will be seen from the growth of young poles in the forests.

Mr. Allan gives the following as a rough idea of the number of saplings per acre:—

Rámgarh per acre	...	...	...	1,600	unthinned.
Ditto	...	...	...	520	thinned.
Telkonia	...	...	...	1,250	unthinned.
Bhillampur	...	...	...	4,700	"
West Lehra	...	...	...	4,340	"
East Lehra	...	...	...	3,530	"
Bahari Baisi and Bharibola		...	...	1,400	"
Banki	...	...	...	2,900	"
Dudhai	...	...	...	5,350	"
Sonari	...	...	...	750	"
Nagwa	...	...	...	660	"

The average number of trees in the mango groves of Oudh is 50 per acre, that is, about 30 feet apart, so that if trees could grow to maturity 15 feet apart some 200 would be all that would be necessary. In Sonári and Nagwa the trees are much older than in the other forests, but most of the trees over 3 feet girth have suffered from the extraction of resin before the Forest Department got charge. In some of the other forests a gradual thinning out of the miscellaneous trees has been taking place.

72. *Protection from fire.*—About 230 miles of fire paths were cleared in and round the forests, and the forests have been generally saved from fire, 5,500 acres being burnt and 68,040 saved. The principal fire of some 3,000 acres was in the Dudhai forests, but as there is not much long grass, the damage done was not so very great; the fire was caused by a native shikári who got six months imprisonment. The only chances from accidental fire is in the Nagwa and Sonári forests, where the grass lands under the district officers are much mixed up with the tree forest under the forest department.

73. *Improvement fellings.*—The usual thinning operations took place in Rámgarh, 250 acres being operated on, the crooked and miscellaneous trees being cut out and the best young sál left at about 10 feet apart. There is I think a marked improve-

ment in the growth where thinning operations have taken place, in the trees left not only filling out but the ground is covered with straight young coppice shoots which seem to do well in the half shade of the trees that remain. The cost of the operations was Rs. 500; the money obtained from the felling came to Rs. 8,741, less stock 5,211, showing a surplus of Rs. 3,030. The detail of thinning is shown in the second part of form 53.

74. *Creeper cutting.*—About 1,400 acres were cleared in the Sonári, Bahari Baisi, and Nagwa forests, namely 500,400 and 500 respectively; more wants being done. Nothing has yet been done against the Bánda parasite (*Loranthus longiflorus*, Brandis' Forest Flora, page 397) which is very abundant.

3.—Yield and Working.

75. The system of felling by permits was in force before, the contractors taking of course the best trees. Mr. Allan issued permits for 714 trees against over 3,000 in the year before, and arranged to fell 1,000 trees departmentally, but only 500 were felled in the year under review. The income will be smaller. The trees are the ones spoken of in Nagwa and Sonári (para. 7) which, as a rule, have been tapped for resin, but some young trees of straight good growth are coming up. As these will form the stock of the future, we cannot be too particular in seeing what trees are felled. The following were sold during the year :—

Sál poles	10,289
Arseyna	13,155
Miscellaneous	1,842

The sál poles came from Rámgarh thinnings, poles not good enough for building purposes, being sold as fuel, and some were from fellings of former years stacked at depôt; the Arseyna poles principally came from Bahari Baisi and were sold on the ground. The work at Rámgarh kept pace with the requirements of the town of Gorakhpur for fuel.

76.

4.—Financial Results.

	Rs.
The receipts came to	29,363
The expenditure to	18,302
And the surplus to	11,061

The timber stock was, it appears, overvalued, young sál losing much of its value by being exposed, and owing to the food scarcity timber was not in much demand. The whole of the budget was not expended, but the division changed hands in June, and the new officer, Mr. Allan, had to learn up his work in the working season.

OUDH CIRCLE.

1.—Area and Boundaries.

77. The area of the "Forests of the Oudh Circle" is now 1,113 square miles as compared with the "Oudh Forests" of last year, which were 824 square miles, four miles being deducted for corrections in Bhira, and 293 added for the Bareilly and Gorakhpur Divisions. The boundaries are being fixed on the ground and but few disputes in details remain unsettled. During the year besides completing some new and repairing a good deal of old dághbel 101 miles of three feet ditching were completed, about 689 sál posts erected, and 36½ miles of Nepal boundary, and 21 of new boundary and several miles of section lines cleared of forest growth.

2.—Protection and Improvement.

78. Over 400 miles of old roads and lines were kept in order, new bridges made and old ones kept up and repaired; 40 miles of new road were made and 35 miles more are in hand.

Progress was made in completing rest-houses and wells and in the making and preparing materials for new ones.

The Soheli was cleared of snags as usual. About 158 square miles of forests were protected from fire under systematic fire conservancy; and much other forest also escaped being burnt over: 250 acres of thinnings were completed in Gorakhpur. The growth of sál and sissu in the protected blocks has been remarkably good, and even in other parts the young sál is doing very well. About one-third of the sál in all forests flowered and seeded under favourable circumstances, the weather in May being showery.

3.—Yield and Working.

79. In Trans-Sárda 5,169 trees were felled by departmental agency, giving about two and a quarter lakhs of cubic feet of timber; about the same amount or rather more of dead or dying sál and miscellaneous mature timber was removed by purchasers from the circle; but little sissu was cut. In Gorakhpur the thinnings, including sál and miscellaneous of 250 acres in Rámgarh, were disposed of and miscellaneous saplings from other forests.

4.—Financial Results.

80. The total revenue was Rs. 4,02,951, and expenditure

"A." ,	1,34,570
"B." „	71,376
Total „	2,05,946

giving a surplus of Rs. 1,97,005; of this a large amount is due to the Patna fellings, arrears having come in for 1876-77. The value of timber, as shown on stock, has been reduced by Rs. 58,483, but nearly that amount of timber was in transit and could not be entered, and there is much more stock in the forests that cannot be shown. The following statement of revenue and expenditure classified under the three great heads of service is given, in compliance with orders contained in Government of India's No. 220F. of 20th February, 1878, being orders on the Oudh progress report for 1876-77. I have given the share of establishment and miscellaneous expenditure in accordance with existing circumstances. The timber operations under A.I.; of which the revenue comes under I., are limited to one-fourth of the forests, and the time of superior forest officers "spent more on conservancy" and "other revenue" than on "timber operations," as are the services of the subordinate forest establishment (excluding depôt establishments) and are almost entirely chargeable to "conservancy" and "other revenue." I have therefore distributed "B" establishments to the three great heads equally instead of half to timber operation and one-fourth to other revenue and conservancy respectively as done in the sample statement sent by Government.

	Receipts	Rupees.	Charges.	Rupees.
I. Departmental timber operations,	I. ...	2,15,965	$A(I+\frac{VI}{2}+\frac{IX.}{3})+\frac{B}{3}$ ...	1,16,471
II. Other revenue	II. III. V.	1,86,986	$A(II+III+\frac{IX}{3})+\frac{B.}{3}$ ...	27,885
III. Formation, protection and improvement of forests.	...	...	$A(\frac{VI.}{2}+VII.+VIII.+\frac{IX}{3})+\frac{B}{3}$...	61,590
	...	4,02,951		2,05,946

81. *General Remarks.*—The year under review was one of drought, and was against us as far as purchasers of timber from the forest and forest depôts were concerned, also for rafting, roads and brickmaking; on the other hand, from rain in May, it was good for fire conservancy and the reproduction of sál. We have, however, obtained a larger amount of revenue than was ever obtained before, excluding Bareilly and Gorakhpur. Considering the paucity of officers good progress was made in works of conservancy and improvement. A separate report on the working of Bahrámghat will be given.

82. Mr. Allan, who was in charge of the Gorakhpur Division from June to the end of the year, has worked well and shown great interest in his work, and done

everything ordered with expedition. It is a small division for a Deputy Conservator to hold, being only equal to an Oudh sub-division, and I trust that he will manage the Rapti Division as satisfactorily as his present charge.

83. Of Mr. Dodsworth I cannot speak too highly. Besides having an extra charge (the Bhira sub-division) in which works were carried out satisfactorily, except the fire conservancy, where his orders were not obeyed, and which he could not visit at the time, in spite of difficulty in procuring sufficient labour, and a most trying season for rafting, he managed to supply the market with more timber than had ever been supplied before, and this single handed, as Mr. Campbell only joined the division some six weeks before the close of the year, and had to learn his work.

84. Mr. Wilmot has done good work in Bahraich, having carried on comparatively extensive works where it was difficult to carry on small ones before; he has also done things in a correct workmanlike style, which was much wanted.

85. Mr. Hillier's conduct has formed the subject of a separate report, and his services have been dispensed with by Government.

86. Mr. Campbell joined too late in the season to have his conduct reported on; but I am glad to say that he has since been reported on favourably.

87. The office establishment have worked well and kept the work pretty well in hand, considering the very great amount of extra correspondence and accounts entailed by the new system of accounts.

88. The rangers, with the exception of Debi Parshad of Bhira, who is better fitted for office work than for hard work and exposure, and who has returned to office work, and Ambica Charan Dass of Bhinga, who has since resigned, have done well in carrying out the orders of their superior officers.

APPENDIX I.

FORM No. 45.

FOREST DEPARTMENT, N.-W. P. AND OUDH, OUDH CIRCLE.

Area of Reserved Forests, 1877-78.

Division or Range.	Name of Forest and Civil district and territory.	*Area on 1st April*, 1877-78.		*Added during the year.*		*Excluded or transferred to other heads.*		*Area on 31st March*, 1878.		No. and date of Notification of additions and transfers, &c.	REMARKS.
		Square miles.	Acres.	Square miles.	Acres.	Square miles.	Acres.	Square miles.	Acres.		
Bareilly Division ...	Bareilly	..	...	168	1,07,520	...	...	168	1,07,520	Government of India, Revenue, Agriculture and Commerce, No. 547 of 14th May, 1878.	
Kheri Division ...	Bhira, Newalkhar, Khairigarh } Kheri ...	427	2,73,280	...	...	4	2,560	423	2,70,720	...	4 miles deducted for cultivation and other land made over to grantees and formerly included.
Bahraich Division ...	Motipur, Bhinga } Bahraich ...	257	1,64,480	...	...	...	...	257	1,64,480		
		140	89,600	...	...	...	...	140	89,600		
Gonda Division ...	Gonda	140	89,600	...	...	...	...	125	80,000	Government of India, Revenue, Agriculture and Commerce, No 547 of 14th May, 1877.	
Gorakhpur Division ...	Gorakhpur	...	...	125	80,000	...	...				
		824	5,27,360	293	1,87,520	4	2,560	1,113	7,12,320		

APPENDIX II.

Area of Unreserved Forests, 1877-78.

Blank.

APPENDIX III.

FORM No. 46.—(*Prescribed*).

Area of Plantations, 1877-78.

Division.	Name of Plantation.	ON 1ST APRIL, 1877.		DURING 1877-78.		ON 31ST MARCH, 1878.		REMARKS.
		Area.	Total cost.	Area added.	Cost.	Total Area.	Total Cost.	
		Acres.	Rs. a. p.	Acres.	Rs. a. p.	Acres.	Rs. a. p.	
Gorakhpur ...	Ramgarh	225	4,210 11 3	...	65 10 8	225	4,276 5 11	
Ditto ...	Sonari	20	100 0 0	20	102 3 9	40	202 3 9	
	Total ...	245	4,310 11 3	20	167 14 5	265	4,478 9 8	

BAHRAMGHAT:
The 15th September, 1878.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX IV.

FORM No. 47.—(*Suggested.*)

FOREST DEPARTMENT, N.-W. PROVINCES AND OUDH, OUDH CIRCLE.

Area of Forest tracts protected from fire during the dry season of 1878, *to accompany report for* 1877-78.

Division.	Forest tracts.	*Up to 30th June,* 1877.		*During dry season of* 1878.				Total cost up to 30th June, 1878.	Year when protection commenced.
		Area actually protected.	Total cost.	Area attempted to be protected.	Failure.	Actually protected.	Amount expended.		
		Acres.	Rs. a. p.	Acres.	Acres.	Acres.	Rs. a. p.	Rs. a. p.	
Kheri Division ...	Dudua home block ...	19,120	2,949 14 5	16,000	640	15,360	1,188 10 1	4,138 8 6	March, 1872.
Bhira Sub-division	North-East Daniapur ... conserved block.	2,160	242 4 8	2,880	1,440	1,440	178 15 10	421 4 6	Jany., 1877.
Bahraich Division	Charda, Section V. ...	6,400	4,974 5 7	6,400	...	6,400	551 0 8	5,525 6 3	March, 1875.
	Block No. 3. Bhinga Section VII.	2,347		3,235	...	3,235			
	Section II. ...	...	...	12,480	5,440	7,040	352 5 7	352 5 7	Feby., 1878.
Gorakhpur Division.	Rámgarh and Tilkonia,	6,754	818 6 8	6,754	...	6,754	1,281 15 9	2,100 6 5	June, 1875.
	Nagwá	6,000		6,000	...	6,000			
	Sonari and Jagpur ...	22,132		22,132	1,500	20,632			
	Dudhai	8,600		8,600	3,000	5,600			
	Bhillampur and Banki,	4,154		4,154	1,000	3,154			
	East Lehra ...	7,600		7,600	...	7,600			
	West Lehra ...	12,300		12,300	...	12,300			
	Bhari Baisi and Bhari Bahori.	5,400		6,000	...	6,000			
	Total ...	102,967	8,984 15 4	1,14,535	13,020	1,01,515	3,552 15 11	12,537 15 3	

CAMP DUDUA,
The 15th December, 1878.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX V.

FORM No. 48.—*(Prescribed).*

FOREST DEPARTMENT, N.-W. PROVINCES AND OUDH, OUDH CIRCLE.

Prosecutions for Breaches of Forest Rules, 1877-78.

Forest Division and Civil District.	*Injury to forests by fire.*		*Unauthorized felling or appropriation of wood and minor forest produce.*		*Grazing without permission or in tracts in which grazing is prohibited.*		*Other offences.*		TOTAL.				REMARKS.
									Prosecutions.		*Convictions.*		
	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Kheri Division ... ... / Kheri District	...	...	3	24	...	...	...	...	3	24	3	23	One man absconded.
Bhira Sub-division ... / Kheri District	...	...	5	8	...	...	...	...	5	8	4	6	Two persons were acquitted owing to a misunderstanding on the part of the Magistrate who was not aware that the three mile rule was not applicable to the Bhira Sub-division. The Magistrate's attention was drawn to the subject by the Deputy Commissioner of Kheri.
Bahramghat Division, Lucknow Depôt. / Lucknow District ...	...	...	1	1	...	...	...	...	1	1	1	1	
Bahraich Division ... / Bahraich District ...	1	1	26	45	...	...	1	3	28	49	26	39	Of these 2 cases were prosecuted in March, 1878, but the criminals were sentenced in April, 1878, and one is still pending.
Gonda Division ... ... / Gonda District	...	...	10	51	...	...	...	...	10	51	10	51	
Gorakhpur Division ... / Gorakhpur District ...	...	...	4	7	...	...	...	...	4	7	3	5	
Bareilly Division ... / Bareilly District ...	...	...	...	...	...	...	...	...	..	...	...	...	
TOTAL ...	1	1	49	136	...	...	1	3	51	140	47	125	

BAHRAMGHAT:
The 16th September, 1878.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX VI.

FORM No. 49.—*(Prescribed).*

FOREST DEPARTMENT, OUDH.

Summary of revenue of the different Divisions, 1877-78.

Budget Heads Receipts.	Kheri Division.	Bahraich Division.	Gonda Division.	Gorakhpur Division.	Bareilly Division.	TOTAL.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY :—						
a. Timber	2,06,858 2 7	6,020 15 10	...	2,180 8 9	...	2,15,059 11 2
b. Firewood and charcoal	783 11 2	...	...	121 14 6	...	905 9 8
c. Bamboos	...	...	...	...	...	...
d. Sandal-wood	...	...	...	...	...	...
e. Grass and other minor produce	...	...	...	...	...	...
II.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS :—						
a. Timber	16,231 12 10	86,953 6 6	5,255 11 7	16,195 13 1	879 8 0	1,25,516 4 0
b. Firewood and charcoal	683 7 9	360 15 9	1,030 2 9	8,074 12 1	1,991 7 9	12,140 14 1
c. Bamboos	...	72 2 0	...	...	...	72 2 0
d. Grazing and fodder grass	16,477 11 5	15,174 5 4	58 14 0	1,674 15 11	941 8 6	34,327 7 2
e. Other minor produce	1,325 14 6	4,087 9 4	1,355 4 11	958 2 6	2,694 9 6	10,421 8 9
III.—CONFISCATED, DRIFT AND WAIF WOOD	99 8 8	1,424 1 8	...	...	...	1,523 10 4
IV.—REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT :—						
a. Duty on foreign timber and other forest produce ...	..	...	...	...	...	...
b. Revenue from shared and private forests ...	...	...	...	...	...	...
V.—MISCELLANEOUS :—						
a. Fines and forfeitures	62 0 1	24 0 0	..	...	3 8 0	89 8 1
b. Refunds	1,286 3 8	5 11 0	...	...	...	1,291 14 8
c. Other sources	666 0 8	598 5 6	108 0 0	157 10 0	73 2 9	1,603 2 11
TOTAL RECEIPTS ...	2,44,474 9 [illegible]	1,14,721 8 11	7,808 1 3	29,363 12 10	6,583 12 6	4,02,951 12 10

BAHRAMGHAT :
The 9th October, 1878.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX VII.

FORM No. 49.—(*Prescribed*).

FOREST DEPARTMENT, OUDH.

Summary of Expenditure of the different Divisions, 1877-78.

Budget Heads. A.—CONSERVANCY AND WORKS.	Kheri Division.	Bahraich Division.	Gonda Division.	Gorakhpur Division.	Bareilly Division.	TOTAL
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY :—						
a. Timber	81,786 14 8	143 10 10	...	1,023 10 7	...	82,954 4 1
b. Firewood and charcoal	1,170 3 5	2,631 7 2	...	73 13 3	...	3,875 7 10
c. Bamboos	...	...	...	...	...	...
d. Sandal-wood	...	...	...	...	...	...
e. Grass and other minor produce	15 0 0	...	...	...	...	15 0 0
II.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS	1,157 9 0	2,031 13 0	285 15 0	...	...	3,475 5 0
III.—CONFISCATED, DRIFT AND WAIF WOOD	10 0 0	...	...	...	...	10 0 0
IV.—REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT :—						
a. Duty on foreign timber and other forest produce ...						
b. Revenue from shared and private forests ...						
V.—RENT OF LEASED FORESTS AND PAYMENTS TO SHAREHOLDERS IN FORESTS MANAGED BY GOVERNMENT						
VI.—LIVE AND DEAD STOCK :—						
a. Purchase of cattle	3,225 0 0	...	...	...	...	3,225 0 0
b. Feed and keep of cattle	3,968 8 1	709 9 4	158 9 4	632 15 4	...	5,469 10 1
c. Plant, tools and instruments	909 13 0	848 2 8	...	...	...	1,757 15 8
VII.—COMMUNICATIONS AND BUILDINGS :—						
a. Roads and bridges	3,443 15 4	3,479 11 11	375 9 1	...	1,200 0 0	8,499 4 4
b. Buildings	9,050 1 6	2,590 3 2	84 6 9	50 10 4	...	11,775 5 9
c. Other works	1,045 5 1	1,552 2 9	...	...	...	2,597 7 10
VIII.—DEMARCATION, IMPROVEMENT AND EXTENSION OF FORESTS :—						
a. Demarcation	1,456 15 10	2,125 3 0	420 8 9	...	...	4,002 11 7
b. Compensation for land and rights	...	143 3 0	...	...	...	143 3 0
c. Surveys and working-plans	...	...	...	49 1 6	...	49 1 6
d. Plantations	7 8 1	...	...	5 6 9	...	12 14 10
e. Protection from fire	1,297 4 5	1,060 1 2	...	1,106 14 10	...	3,464 4 5
f. Other works	397 0 8	425 11 0	216 6 6	380 8 7	...	1,419 12 9
IX.—MISCELLANEOUS :—						
a. Refunds	4 8 6	763 2 0	6 12 3	...	...	774 6 9
b. Law charges	32 15 9	...	...	...	...	32 15 9
c. Other charges	573 11 3	299 8 8	142 11 0	...	...	1,015 14 11
Total, A.—Conservancy and Works ...	1,09,552 6 7	18,803 9 8	1,691 0 8	3,323 1 2	1,200 0 0	1,34,570 2 1

BAHRAMGHAT :
The 16th September, 1878.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX VIII.

FORM No. 49.—*(Prescribed).*

FOREST DEPARTMENT, OUDH.

Summary of Expenditure of the different Divisions, 1877-78—(concluded).

Budget Heads. B.—ESTABLISHMENTS.	Direction.	Kheri Division.	Bahraich Division.	Gonda Division.	Gorakhpur Division.	Bareilly Division.	TOTAL.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a p.	Rs. a. p.	Rs. a. p.
Brought forward, Total A. Conservancy and Works,	...	1,09,552 6 7	18,803 9 1	1,691 0 8	3,323 1 2	1,200 0 0	1,34,570 2 1
I.—SALARIES :—							
a. Conservators	12,000 0 0	...	...	...	...	...	12,000 0 0
b. Superior officers	...	9,960 9 5	4,200 0 0	...	6,350 0 0	...	20,510 9 5
c. Subordinate forest and depôt establishments	...	7,224 6 7	3,192 1 10	1,428 8 6	5,707 15 8	504 0 0	18,057 0 7
d. Office establishments	1,831 1 7	2,867 12 2	995 6 7	297 8 0	710 0 0	623 0 0	7,324 12 4
e. Deputation and special allowances ...	...	...	...	...	...	...	...
II.—TRAVELLING ALLOWANCES :—							
a. Conservators	1,714 4 0	...	...	...	...	...	1,714 4 0
b. Superior officers	...	1,983 8 0	1,141 5 0	...	1,409 11 0	...	4,534 8 0
c. Subordinate forest and depôt establishments	...	992 7 5	485 3 4	217 7 11	...	...	1,695 2 8
d. Office establishments	471 11 10	741 14 6	327 3 9	100 2 7	189 2 9	...	1,830 3 5
III.—CONTINGENCIES :—							
a. Stationery...	8 15 3	102 9 9	36 11 0	9 10 6	38 11 0	15 4 6	211 14 0
b. Carriage of tents and records ...	274 13 4	92 2 7	94 12 6	33 8 6	224 10 2	...	719 15 1
c. Pay of police guards	...	365 14 6	121 8 7	118 3 4	...	...	605 10 5
d. Sundries	331 13 11	788 14 11	131 2 1	79 6 4	300 7 1	...	1,631 12 4
e. Official postage	229 15 0	164 9 0	77 5 6	20 0 0	49 1 0	...	540 14 6
TOTAL, B.—ESTABLISHMENTS ...	16,862 10 11	25,284 12 10	10,802 12 2	2,304 7 8	14,979 10 8	1,142 4 6	71,376 10 9
GRAND TOTAL OF EXPENDITURE ...	16,862 10 11	1,34,837 3 5	29,606 5 10	3,995 8 4	18,302 11 10	2,342 4 6	2,05,946 12 10

BAHRAMGHAT:
The October, 9th 1878.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX IX.

FORM No. 50.—(*Prescribed*).

FOREST DEPARTMENT, OUDH.

Account current for the year 1877-78.

Dr.

		Rs.	a.	p.	Rs.	a.	p.
To Cash Balance on 1st April, 1877		22,460	0	1	22,460	0	1
„ REVENUE RECEIVED IN CASH.	Direction Division	...					
	Kheri do.	1,46,194	12	4			
	Bahraich do	1,14,721	8	11			
	Gonda do.	7,808	1	3			
	Gorakhpur do.	29,363	12	10			
	Bareilly do.	6,583	12	6	3,04,671	15	10
„ REVENUE ADJUSTED BY BOOK TRANSFER.	Public Works Department, Oudh,	15,407	2	8			
	P. W. D. Benares Provincial Divn.,	1,157	7	4			
	P. W. Jumna Canal, Karnal Divn.,	1,541	11	3			
	Military Works. Lucknow ...	4,738	3	9			
	Ditto Bareilly, N.-W. P.,	2,184	8	7			
	Ditto Commt. Dept., Agra,	494	11	10			
	Ditto ditto, Lucknow,	622	1	2			
	Ditto ditto, Bareilly, North-Western Provinces.	78	8	8			
	Ditto Ordnance Department, Fatehgarh.	12,059	7	4			
	Rajputana State Railway ...	237	12	1			
	Opium Agency, Behar ...	54,198	15	7			
	Jail Department, Allahabad ...	5,559	2	9	98,279	13	0
„ Remittances from State Treasuries		2,24,368	10	10	2,24,368	10	10
„ REMITTANCES BY TRANSFER FROM OTHER DEPARTMENTS.	Public Works Department, Oudh,	1,318	11	2			
	Military Department, Bengal ...	384	14	4			
	Workshops, Roorkee ...	84	8	0			
	Jail Department, Kheri ...	31	0	3			
	Opium Agency, Behar ...	2,185	8	6			
	Forest Dept., Ravi Divn., Punjab,	228	6	7	4,283	0	10
„ Remittances by Divisional Transfers		10,804	1	8	10,804	1	8
„ Contribution to Funds U. S. F. P. Fund ...		424	6	0	424	6	0
„ Advances Recoverable		2,55,660	13	9	2,55,660	13	9
„ Suspense Account		154	8	3	154	8	3
„ Deposits		15,496	6	9	15,496	6	9
Total ...		...			9,36,553	13	0

Cr.

		Rs.	a.	p.	Rs.	a.	p.
BY EXPENDITURE UNDER A.	Direction Division ...	...					
	Kheri Division ...	1,09,552	6	7			
	Bahraich do. ...	18,803	9	8			
	Gonda do. ...	1,691	0	8			
	Gorakhpur do. ...	3,323	1	2			
	Bareilly do. ...	1,200	0	0	1,34,570	2	1
„ EXPENDITURE UNDER B.	Direction Division ...	16,862	10	11			
	Kheri do. ...	25,284	12	10			
	Bahraich do. ...	10,802	12	2			
	Gonda do. ...	2,304	7	8			
	Gorakhpur do. ...	14,979	10	8			
	Bareilly do. ...	1,142	4	6	71,376	10	9
„ Revenue remittances to State Treasuries,		3,15,953	1	8			
„ Remittances to State Treasuries ...		5,170	8	11	3,21,123	10	7
„ Revenue adjusted by book transfer ...		98,279	13	0	98,279	13	0
„ Divisional transfers		9,555	6	4	9,555	6	4
„ Advances recoverable		2,73,381	7	1	2,73,381	7	1
„ Imprest		100	0	0	100	0	0
„ Suspense Account		909	12	8	909	12	8
„ Deposits repaid		15,587	5	3	15,587	5	3
„ Provincial Service charge (office rent),		15	0	0	15	0	0
„ Government of India, Miscellaneous (Profit and Loss).		25	0	0	25	0	0
Total ...		...			9,24,924	3	9
Cash balance on 31st March, 1878 ...		...			11,629	9	3
GRAND TOTAL ...		...			9,36,553	13	0

CAMP BAHRAMGHAT:
The 15th September, 1878.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX X.

FORM No. 51.—(*Prescribed*).

FOREST DEPARTMENT, OUDH.

Statement of outstandings and liabilities on account of contractors, 1877-78.

Division.	Department debtor.			Department creditor.			Balance due.	
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during the year.	At close of year.	To Department (Outstandings).	By Department (Liabilities).
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p
Kheri Division.								
Carter's account, 1876-77 ...	...	12,129 2 11	12,129 2 11	8,055 3 6	4,082 3 6	12,137 7 0	4 3 3	5 15 2
Do. do., 1877-78 ...	...	3,071 15 6	3,071 15 6	...	11,437 5 9	11,437 5 9	8,365 6 3	...
Fuel Contractors.								
Madho Parshad and Mulchand ...	449 8 10	180 0 0	629 8 10	...	...	...	...	629 8 10
Gauri Shankar	...	425 9 10	425 9 10	4,669 3 9	...	4,669 3 9	4,243 9 11	...
Rafting Contractors.								
Bhola, Mallah	29 0 4	...	29 0 4	...	...	...	...	29 0 4
Gauri Shankar	...	771 9 1	771 9 1	717 0 3	54 8 10	771 9 1	...	...
Boat making Contractors.								
Dabi and Bhakku	...	...	...	35 0 0	...	35 0 0	35 0 0	...
Total, Kheri Division ...	478 9 2	16,578 5 4	17,056 14 6	13,476 7 6	15,574 2 1	29,050 9 7	12,658 3 5	664 8 4
Bhira Sub-division	...	278 0 0	278 0 0	...	303 0 0	303 0 0	25 0 0	...
Bahramghat Division	...	4,894 8 0	4,894 8 0	2 554 8 0	5,842 0 0	8,396 8 0	3,502 0 0	...
Bahraich do.	...	2,340 0 0	2,340 0 0	...	2,640 0 0	2,640 0 0	300 0 0	...
Gorakhpur do.	..	2,091 11 6	2,091 11 6	1,663 14 0	984 6 6	2,648 4 6	556 9 0	...
Total ...	478 9 2	26,182 8 10	26,661 2 0	17,694 13 6	25,313 8 7	43,0[illegible]8 6 1	17,041 12 5	664 8 4

BAHRAMGHAT :
The 23rd September, 1878.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX XI.

FORM No. 51.—(*Prescribed*).

FOREST DEPARTMENT, OUDH.

Statement of outstandings and liabilities on account of Disbursers, 1877-78.

Division.	Department debtor.			Department creditor.			Balance due.	
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during the year.	At close of year.	To Department (Outstandings).	By Department (Liabilities).
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Direction	...	2,686 1 10	2,686 1 10	399 11 7	2,796 15 7	3,196 11 2	510 9 4	...
Kheri Division	344 2 6	1,00,831 15 3	1,01,176 1 9	5,500 14 0	1,11,349 1 6	1,16,849 15 6	15,674 5 9	0 8 0
Bhira Sub-division ...	...	16,577 4 9	16,577 4 9	157 12 1	17,241 0 7	17,398 12 8	821 7 11	...
Bahramghat Division	...	1,287 12 0	1,287 12 0	469 11 4	2,903 5 11	3,373 1 8	2,085 5 8	...
Bahraich do.	338 10 8	1,09,514 0 11	1,09,852 11 7	7,610 7 3	1,03,919 5 0	1,11,529 12 3	1,677 0 0	...
Gonda do.	...	13,636 3 8	13,636 3 8	2,373 15 9	11,426 8 9	13,800 8 6	164 4 10	...
Gorakhpur do.	...	2,097 7 10	2,097 7 10	514 6 7	2,190 12 0	2,705 2 7	607 10 9	...
Bareilly do.	...	500 0 0	500 0 0	...	500 0 0	500 0 0	...	...
Total ...	682 13 2	2,47,130 14 3	2,47,813 11 5	17,026 15 0	2,52,327 1 4	2,69,354 0 4	21,540 12 11	0 8 0

BAHRAMGHAT:
The 25th September, 1878.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX XII.

FORM No. 51.—(*Prescribed*).

FOREST DEPARTMENT, OUDH.

Statement of outstandings and liabilities on account of Timber sales, 1877-78.

Division.	Department debtor.			Department creditor.			Balance due.		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during the year.	At close of year.	To Department (Outstandings).	By Department (Liabilities.)	
Kheri Division.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Ex. Engr., Sitapur Provincial Division.	...	1,491 0 0	1,491 0 0	...	1,333 5 4	1,333 5 4	...	157 10 8	
Bahramghat Division.									
Oudh and Rohilkhand Railway, Lucknow.	23 13 4	24,055 15 5	24,079 12 9	8,896 3 11	15,159 11 6	24,055 15 5	...	23 13 4	
Executive Engineer, Fyzabad Provincial Division.	...	*11 13 4	11 13 4	11 13 4	...	11 13 4	...	...	
Ditto Rae Bareli ditto,...	...	†6,279 14 2	6,279 14 2	668 10 3	9,460 4 0	10,128 14 3	3,849 0 1	...	
Ditto Lucknow ditto, .	...	‡3,472 3 9	3,472 3 9	506 1 7	2,966 2 2	3,472 3 9	...	...	
Ex. Comsrt. Officer, Lucknow,	...	58 5 2	58 5 2	20 5 2	104 1 0	124 6 2	66 1 0	...	Since realized.
Supdt. C. Prison, Benares ...	...	3,000 0 0	3,000 0 0	3,000 0 0	...	3,000 0 0	...	...	
Native purchasers ...	...	1,632 0 0	1,632 0 0	1,061 0 0	571 0 0	1,632 0 0	...	...	
Ex. Engr., Western Jumna Canal, Karnal Division.	...	1,541 11 3	1,541 11 3	26 7 0	2,021 10 1	2,048 1 0	506 5 10	...	
Resident Engineer, Oudh and R. Railway, Lucknow.	...	2,556 15 1	2,556 15 1	436 9 9	2,120 5 4	2,556 15 1	...	...	
Mr. J. C. Rogers, Cawnpore,	...	2,572 7 8	2,572 7 8	427 12 8	2,144 11 0	2,572 7 8	...	...	
Political Agent, Alwar ...	...	2,988 7 11	2,988 7 11	2,988 7 11	...	2,988 7 11	...	...	
Head Master, High School, Partabgarh.	...	120 11 9	120 11 9	120 11 9	...	120 11 9	...	...	

District Supdt., Unao ...	...	69 0 0	69 0 0	33 9 0	35 7 0	69 0 0	...	...	
Ordnance Department, Fatehgarh.	...	12,059 7 4	12,059 7 4	7,654 14 10	...	7,654 14 10	...	4,404 8 6	
Opium Agent, Behar ..	...	54,021 15 1	54,021 15 1	...	56,498 6 3	56,498 6 3	§2,476 7 2	...	
Resident Engineer, Oudh and R. Railway, Bara Banki.	...	357 15 4	357 15 4	...	977 10 2	977 10 2	619 10 10	...	Through Babu Nobin Behari, Inspector, Oudh and Rohilkhand Railway.
Ex. Engr, Provincial Division, Benares.	...	1,157 7 4	1,157 7 4	...	1,243 6 7	1,243 6 7	85 15 3	...	
Superintendent, Science Department, Lucknow.	...	114 2 3	114 2 3	...	165 5 2	165 5 6	51 3 3	...	Since realized.
Executive Commissariat Officer, Bareilly.	...	78 8 8	78 8 8	...	79 0 5	79 0 0	‖0 7 9	...	
Executive Engineer, Military Works, Bareilly.	...	2,184 8 7	2,184 8 7	...	2,284 8 7	2,284 8 7	100 0 0	...	Ditto.
Superintendent, Central Prison, Fatehgarh.	...	6,430 0 0	6,430 0 0	...	3,671 2 0	3,671 2 0	...	2,758 14 0	
Ditto, Bareilly ...	...	6,617 1 10	6,617 1 10	...	4,817 1 10	4,817 1 10	...	1,800 0 0	
Superintendent, District Jail, Allahabad.	...	1,144 0 11	1,144 0 11	...	1,162 3 5	1,162 3 5	¶18 2 6	...	
Mr. E. Hodges, Hardoi ...	...	74 1 2	74 1 2	...	187 5 6	187 5 6	113 4 4	...	Ditto.
Resident Engineer, Oudh and Rohilkhand Railway, Bara Banki.	...	183 13 6	183 13 6	...	185 6 2	185 6 2	1 8 8	...	
Superintendent, District Jail, Basti.	...	...	...	...	365 7 3	365 7 3	365 7 3	...	Ditto.
District Engineer, East Indian Railway, Cawnpore.	...	...	...	...	795 5 11	795 5 11	795 5 11	...	Ditto.
Resident Engineer, Oudh and Rohilkhand Railway, Lucknow.	...	1,594 8 2	1,594 8 2	...	1,634 8 2	1,634 8 2	40 0 0	...	Ditto.
Fateh Muhammad of Lucknow,	...	2 0 0	2 0 0	...	14 0 0	14 0 0	12 0 0	...	This will be recovered by resale of timber.
Bahraich Division ...	...	100 0 0	100 0 0	...	150 0 0	150 0 0	50 0 0	...	Sale of canoes.
Total ...	23 13 4	1,35,970 3 8	1,35,994 1 0	25,852 11 2	1,10,147 7 2	1,36,000 2 4	**9,150 15 10	9,144 14 6	

BAHRAMGHAT :

The 22nd September, 1878.

* Debit of 1875-76 now cleared off.
† Added Rs. 7-7-5 to clear off excess debit of 1875-76.
‡ Ditto Rs. 5-14-5 to clear off excess debit of 1875-76.
§ Not allowed by Opium Agent on account less measurement.
‖ Carriage not accounted for by Commissariat Department.
¶ Carriage less accounted for by Superintendent.

**9,150 15 10
2,476 7 2 deduct *vide* mark §

Leaving, 6,674 8 8 shown *vide* Form No. 57—[*Prescribed.*]

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX XIII.

FORM No. 52.—(*Prescribed.*)

Forest Department, North-Western Provinces and Oudh, Oudh Circle, statement of outstandings on account of revenue, 1877-78.

Division.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	REMARKS.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Kheri Division	On account leases of minor forest produce,	91 0 0	906 0 0	997 0 0	207 0 0	790 0 0	
	Ditto ditto ditto ...	107 0 0	...	107 0 0	26 3 9	80 12 3	
	Ditto grazing dues	427 0 0	...	427 0 0	427 0 0	...	
	Ditto ditto	639 10 0	530 8 0	1170 2 0	17 11 0	1,152 7 0	
	Ditto ditto	2,461 15 0	1,244 4 0	3,706 3 0	111 14 0	3,594 5 0	
Bahraich Division.	Ditto green and dry sissu timber ...	31,184 8 0	823 12 0	32,008 4 0	32,008 4 9	...	
	Ditto lease of drift timber ...	500 0 0	1,250 0 0	1,750 0 0	1,300 0 0	450 0 0	
	Ditto grazing dues	33,180 12 5	16,515 13 3	49,696 9 8	14,493 15 9	35,202 9 11	
	Ditto minor forest produce ...	373 12 6	1,277 0 0	1,650 12 6	1,543 0 6	107 12 0	
	Ditto sale of dugouts (canoes) ...	...	150 0 0	150 0 0	100 0 0	50 0 0	
Gonda Division.	Ditto miscellaneous leases ...	5 0 0	102 0 0	107 0 0	107 0 0	...	
	Ditto grazing dues	26,193 10 3	4,859 13 0	31,053 7 3	43 2 0	31,010 5 3	
Bahramghat Division.	Ditto t mber sales	25,852 11 2	1,81,262 8 1	2,07,115 3 3	1,98,014 3 5	9,100 15 10	Of this Rs 2,476-7-2 have not been allowed by Opium Agency, Behar, on account difference in measurements Rs 20 have been deducted on account liabilities.
Gorakhpur Division.	Ditto timber and other produce ...	1,347 9 7	30,281 10 1	31,629 3 8	29,975 5 7	1,653 14 1	
Bhira Sub-Division.	Ditto grazing dues ...	...	*498 8 0	498 8 0	63 10 0	434 14 0	* Rs 335-3-0 now added for 1876-77.
	Ditto minor forest produce ...	...	2,876 0 0	2,876 0 0	1,529 0 0	1,347 0 0	
	Total ...	1,22,364 8 11	2,42,577 12 5	3,64,942 5 4	2,79,967 6 0	84,974 15 4†	

PAHRAMGHAT;
The 22nd September, 1878.

† 84,974 15 4
2,476 7 2 Deducted, see bottom of Form No. 51.

Actual outstandings ... 82,498 8 2

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX XIV.

FORM No. 53.—(*Suggested.*)

FOREST DEPARTMENT, OUDH.

Statement of trees felled during the year 1877-78.

Division.	Forest range.	Locality.	Description of trees.	*On hand from previous year.*		*Felled during current year.*		*Total.*		*Disposed of during current year.*			*Closing balance.*		REMARKS.
				No.	Cubic feet.	No.	Cubic feet.	No.	Cubic feet.	How disposed of.	No.	Cubic feet.	No.	Cubic feet.	
KHERI DIVISION,	Newalkhar ...	Forest Blocks, Nos. 2 and 3, north-east of Dudua Chandpara road.	Sál ...	1,782	...	...	...	1,782	...	Ditto,	1,782	...	...	...	
			Asna ...	190	...	...	...	190	...	Ditto,	190	...	...	...	
	Khairigarh ...	Forest Block, No. 4, Bhadauri, east of fort Ghori Sháh, Karia road.	Sál ...	2,247	...	...	...	2,247	...	Ditto,	2,247	...	...	...	1,981 carted to depôts. 108 inferior logs sold in the forests. 158 unsound logs rejected and left in the forests unremoved.
	Ditto ...	Forest Block between Bhadi Tál and Bilryon's Deeh.	Sál ...	...	...	4,154	...	4,164	...	...	...	...	4,164	...	
			Asna ...	...	...	1,015	...	1,015	...	...	...	...	1,015	...	
GORAKHPUR DIVISION.	Sonari and Nagwa.	Sonari ...	Sál ...	...	...	500	...	400	...	...	...	...	500	...	Cut departmentally, but not yet disposed of.
		Total ...	...	4,219	...	5,679	...	9,898	...	...	4,219	...	5,679	...	

BAHRAMGHAT:
The 26th September, 1878.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX XV.

FORM No. 53.

FOREST DEPARTMENT, N.-W. P. AND OUDH, OUDH CIRCLE.

GORAKHPUR DIVISION.

Statement of trees felled during the year 1877-78.

THINNINGS.

Division.	Forest Range.	Locality.	Description of trees.	On hand from previous years.		Felled during current year.		Total.		Disposed of during current year.			Closing balance.	
				No.	Cubic feet.	No.	Cubic feet.	No.	Cubic feet.	How disposed of.	No.	Cubic feet.	No.	Cubic feet.
GORAKHPUR ...	Rámgurh, Blocks I., III., IV. and V. Tilkoniá ... ... Nagwá ... ... Sonari ... ... Bhari Baisi ... ... Dudhoi ... ... West Lehra ... East Lehra ... Banki	...	Sál ... Mahua ... Karwa ... Jamua ... Asna or Lien ... Bahera ... Kajrowta ... Asid ... Pauan ... Khaji ... Kusum ... Bel ... Gúlar ... Pras ... Agai ... Kokat ...	8,686 97	... ...	10,900 438 11 717 13,155 3 5 603 1 4 32 4 1 1 6 916	... ...	19,586 535 11 717 13,155 3 5 603 1 4 32 4 1 1 6 916	... ...	Sold ...	12,062 509 11 717 13,155 3 5 603 1 4 32 4 1 1 6 916	... ...	7,524 26	... .
			...	8,783	...	26,797	...	35,580	...	...	28,030	...	7,550	...

GORAKHPUR:
The 30th June, 1878.

(Countersigned.)
E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

W. G. ALLAN,
Deputy Conservator.

APPENDIX A. TO FORM No. 53.

FOREST DEPARTMENT, OUDH.

Summary of Receipts and Expenditure on Departmental thinnings, Ramgarh Forests, Gorakhpur Division, for the year 1877-78.

Description of timber.	*On hand at the commencement of the year.*		*Cut during the year.*		*Total.*		*Expenditure on year's cutting and thinning.*		*Sold during the year.*		*On hand at the close of the year.*		REMARKS.
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Amount.	Number.	Amount.	Number.	Value.	
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.	
Sál Ballas ...	775	200	7,936	1,800	8,711	2,000	7,936		3,187	1,064	5,524	936	
„ Koros ...	7,911	1,000	432	50	8,343	1,050	432		6,343	806	2,000	244	
Mahua Dharus ...	64	50	46	30	110	80	46	500	84	69	26	11	Thinning of 250 acres at Ramgarh.
„ Logs ...	33	40	11	28	44	68	11		44	68	...	...	
Firewood ...	Mds. 51,120	5,112	Mds. 16,220	1,622	Mds. 67,340	6,734	Mds. 16,220		Mds. 67,340	6,734	...	...	
	8,783	6,402	8,425	3,530	17,208	9,932	8,425	500	9,658	8,741	7,550	1,191	
	Mds. 51,120	...	Mds. 16,220	...	Mds. 67,340	...	Mds. 16,220	...	Mds. 67,340	...	...	...	

ABSTRACT.

Number of saplings cut 8,425, costing Rs 500.
Amount realized on account of sales, Rs. 8,741, less stock Rs. 5,211*.
Balance in favour Rs. 3,030; this does not really show the transactions of the year, the stock at the commencement being overvalued.

* Depreciation in stock.

Rs.
6,402
1,191
5,211

CAMP *vid* KHERI:
The 1*st January*, 1879.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX XVI.

FORM No. 55.—*(Prescribed).*

FOREST DEPARTMENT, N.-W. P. AND OUDH, OUDH CIRCLE.

Statement of timber and other produce brought to depôt from the different Forest Divisions, 1877-78.

Division.	Forest.	Description of Timber, &c.	No. of		Total of each Division.		REMARKS.
			Pieces.	Cubic feet.	Pieces.	Cubic feet.	
Kheri Division ...	Khairigarh ...	Sál Logs	2,198	97,723·60*			*Actual measurement.
	Newalkhar ...	" "	1,829	73,160			
	Ditto ...	Asna Logs	314	12,560	4,341	183,443·60	
	Ditto ...	Fuel	Maunds,	2,382	...	...	
	Ditto ...	Charcoal	"	4,835¼	...	7,217¼	
	Ditto ...	Ballis	2,110	...	2,110	...	
Bahraich Division ...	Motipur	...	...	...	...	...	
	Sujuli Forests ...	Fuel	Maunds,	25,980	...	25,980	
Gorakhpur Division ...	Ramgarh	Ballas	15	...	15	...	
	Nagwa	Charcoal	Maunds,	853⅞	...	853⅞	
		Total ...	...	...	6,466	Cubic feet 183,443·60 Mds. 27,051⅛	

BAHRAMGHAT:
The 21st September, 1878.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX XVII.

FORM No. 56.—*(Prescribed).*

FOREST DEPARTMENT, OUDH.

Account of Timber and other produce, 1877-78.

Particulars.	Pieces.		Total.	
	No.	Cubic feet.	No.	Cubic feet.
Balance in hand at the commencement of year.				
Logs and pieces	8,809	...		
Scantlings (Sál)	...	75,853·85		
„ (Asna) ..	...	6,543·06		
Ballis	778	...		
Firewood (maunds) ...	...	324		
Charcoal (maunds) ...	...	1,788¼		
Canoes	781	...		
Logs and Ballas (Gorakhpur)...	19,349	1,151·50	29,717	83,548·41 Mds. 2,112¼
Received during year.				
Logs and pieces (forest) ...	4,341	...		
„ „ (river) ...	16	...		
„ „ (stock) ...	16	...		
„ Haldu	7	...		
„ Deodar (from Ravi Division)	7	...		
Scantlings (Sál)	...	78,028·65		
„ (Asna)... ...	...	472·63		
„ (Deodar) ...	...	84·36		
Ballis (Bahramghat Division) ...	2,090	...		
Charcoal „ ...	Maunds	3,662¾		
Carried over ...	...	...	29,717	83,548·41 Mds. 2,112¼

Particulars.	Pieces.		Total.	
	No.	Cubic feet.	No.	Cubic feet.
Removed by purchasers.				
Logs	288	...		
„ Haldu	7	...		
Scantlings (Sál)	...	75,731·84		
„ (Asna)	...	990·75		
Logs and Ballas (Gorakhpur) ..	5,403	995·50		
Ballis (Bahramghat) ...	203	...		
„ (Kheri Division) ...	20	...		
Canoes (Bahraich Division) ...	257	...		
Fuel (Bahramghat) ...	Maunds	2,419 1/16		
Charcoal (Kheri Division) ...	„	12½		
„ (Bahramghat) ...	„	478		
„ (Gorakhpur) ...	„	853¼	6,178	77,718·09 Mds. 3,763 1/16
Lost or used by the Department.				
Logs (Kheri)	283	...		
Charcoal (Kheri)... ...	Maunds	1,160		
Logs (Sál Bahramghat) ...	4,229	...		
„ (Asna ditto) ...	11	...		
„ (Deodar ditto) ...	3	...		
Scantlings (Sál ditto) ...	...	4,812·21		
„ (Asna ditto) ...	...	127·40		
„ (Deodar ditto) ...	...	8,436		
Carried over ...	...	...	6,178	77,718·09 Mds. 3,763 1/16

APPENDIX XVII.

FORM No. 56.—*(Prescribed).*

FOREST DEPARTMENT, OUDH.

Account of Timber and other produce, 1877-78—(concluded.)

Particulars.	Pieces.		Total.	
	No.	Cubic feet.	No.	Cubic feet.
Received during year—(concld.)				
Brought forward ...	...	...	39,717	83,548·41½ Mds. 2,112¼
Charcoal (Gorakhpur Division)...	Maunds	853⅞		
Fuel (Bahramghat Division) ...	"	2,382		
" (Bahraich Division) ...	"	25,980		
Ballas (Gorakhpur Division) ...	15	...		
Charcoal (Kheri Division) ...	Maunds	1,172½		
Ballis " ...	20	...	6,512	78,585·64 Mds. 34,051⅛
TOTAL ...	...	...	36,229	Cubic feet. 1,62,134 05 Mds. 36,163⅜

Particulars.	Pieces.		Total.	
	No.	Cubic feet.	No.	Cubic feet.
Lost or used by the Department—(concluded).				
Brought forward ...	...	...	6,178	77,718·09 Mds. 3,763 7/16
Ballis (Bahramghat) ...	87	...		
Canoes (Bahraich Division) ...	1	...		
Fuel (Bahramghat ditto) ...	Maunds	286 15/16		
Charcoal " ...	"	862	4,614	5,023·97 Mds. 2,308 15/16
Balance in hand at close of year.				
Logs and pieces (Kheri Division)	6,326	..		
Do. in transit (ditto) ...	1,346	...		
Logs (Sâal Bahramghat Division)	387	...		
" (Asna ditto) ...	312	...		
" (Deodar ditto) ...	4	...		
Scantlings (Sâl ditto) ...	...	73,338·45		
" (Asna ditto) ...	...	5,897·54		
Ballis (Bahramghat Division) ...	2,578	...		
Charcoal (ditto) ...	Maunds	4,111		
Canoes (Bahraich Division) ...	523	...		
Fuel (ditto) ...	Maunds	25,980		
Logs and Ballas (Gorakhpur)...	13,961	156·00	25,437	79,391·99 Mds. 30,091
TOTAL ...	...	...	36,229	Cubic feet. 162,134·05 Mds. 36,163⅜

BAHRAMGHAT:
The 22nd September, 1878.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX XVIII.

FORM No. 57.—*(Suggested.)*

FOREST DEPARTMENT, OUDH.

Statement showing the amount realized on account of the different classes of timber and other produce sold during 1877-78.

Division.	Description of timber, &c.	Number of pieces, &c., sold.	Cubic contents.	Amount realized and due on account of sales.			Average amount per log, &c.			Average cubic contents of logs, &c.	Average amount per cubic foot.			Remarks.
				Rs.	a.	p.	Rs.	a.	p.		Rs.	a.	p.	
Kheri Division Soheli Depôt.	Logs (Sál)	182	9,956·17	6,014	0	4	33	0	8	54·70	0	9	8	*
	„ (Asna)	1	29·74	5	9	3	5	9	3	29 74	0	3	0	
	„ (Sál rejected)... ...	1	49 72	6	3	6	6	3	6	49·72	0	2	0	
	Scantlings (rejected) ...	6	12·32	13	13	8		...		...	1	2	0	
	Off-cuts and refuse) ...	...	Unmeasured,	549	0	0		...		...		...		
	Ballis (miscellaneous) ...	20	...	5	0	0	0	4	0	...		...		
	Canoes	1	...	35	0	0	35	0	0	...		...		
	Large boats	2	...	*1,491	0	0	666	10	8	...		...		* Liabilities Rs. 157-10-8.
	Charcoal	Maunds ...	12½	2	8	0		...		per maund,	0	3	2	
Bahramghat Depôt.	Logs (Sál)	105	6,231·22	7,565	8	6	30	1	8	59·34	0	8	1	
	Pieces of logs (Sál)... ...	1,170	21,984·00	24,743	4	1	21	2	5	18 80	1	2	0	
	Logs (Haldu)	7	257·05	79	0	0	11	4	9	36·71	0	4	11	
	Scantlings (Sál)	123,910 & 16 stacks	75,731·86	104,764	1	5		...		...	1	5	2	
	do. (Asna) ...	1,178	990·75	835	13	11		...		...	0	13	6	
	Offcuts (Sál and Asna) ...	1,056	10,679·21	3,480	10	0		...		...	0	5	3	
	Rubbish	2,218	Unmeasured,	7,713	8	0	3	7	7	...		...		
	Ballis (miscellaneous) ...	213	...	325	8	0	1	9	7	...		...		
	Hire of boats	...	...	317	9	4		...		...		...		
	Fuel	Maunds ...	2,419 1/16	590	0	0		...		per maund,	0	3	11	
	Charcoal	ditto ...	478	191	3	2		...		ditto,	0	6	5	
Bahraich Division.	Canoes	251	...	5,796	8	0	23	3	6	...		...		
	Hire of boats	...	...	274	7	10		...		...		...		
Gorakhpur Division.	Logs (Sál)	50	995·50	342	8	0	6	13	7	19·89	0	5	6	
	Gurhas	361	...	387	13	0	1	1	2	...		...		
	Ballas	3,240	...	1,025	12	9	0	5	1	...		...		
	Koros	1,648	...	345	14	6	0	3	4	...		...		
	Golas	104	..	15	12	6	0	2	5	...		...		
	Charcoal	Maunds ...	853⅞	121	14	6		...		per maund,	0	2	3	

Total amount realized and due	1,67,039	0	3
Deduct amount due, but not realized during the year ...	6,674	8	8
Balance ...	1,60,364	7	7
Add amount realized on account of former years	55,600	13	3
Total shown as revenue on account of sales under Budget Head I.,	2,15,965	4	10

See prescribed form No. 51.

BAHRAMGHAT:
The 21 *st September*, 1878.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

APPENDIX XIX.

OLD FORM No. 23, FOR NEW FORM No. 60.—(*Suggested.*)

FOREST DEPARTMENT, OUDH.

Abstract showing the value of Timber stock 1877-78.

				No.				Rs.	a.	p.		Rs.	a.	p.		Rs.	a.	p.
KHERI DIVISION.																		
Suthiana Depôt—logs		...	...	...	4,640	@ 40	c. ft.	@	0	6	0 per c. ft. ...	69,600	0	0				
Dudua " "		...	...	...	1,642	@ 40	c. ft.	@	0	8	0 " " ...	32,840	0	0				
Khairigarh " "		...	...	...	7	@ 50	c. ft.	@	0	10	0 " " ...	218	12	0				
Ramnagar " "		...	...	...	31	@ 75	"	@	0	12	0 " " ...	1,743	12	0		1,34,642	8	0
Shitaba " "		...	...	...	6	@ 50	"	@	0	12	0 " " ...	225	0	0				
Bahramghat " "	Sál	...	...	...	387	@ 60	"	@	1	0	0 " " ...	23,220	0	0				
"	Asna	...	...	...	312	@ 55	"	@	0	6	0 " " ...	6,435	0	0				
"	Deodar	...	...	...	4	@ 45	"	@	2	0	0 " " ...	360	0	0				
In transit "		...	...	...	1,346													
Bahramghat Depôt,	Sál scantlings	...	...	...	...	73.338·45 c. ft.		@	0	12	0 " " ...	59,427	0	0		59,910	6	0
"	Asna do.	...	...	...	...	5,897·54 "												
"	Ballis miscellaneous		...	...	2,578			@	0	3	0 each ...	483	6	0				
Gorakhpur Division,	Ballas	...	...	...	13,961			@	0	3	0 " ...	2,667	8	0		2,667	8	0
"	Logs	...	...	...		156·00	c. ft.	@	0	5	0 per c. ft. ...							
Bahraich Division,	Firewood	...	...	Maunds,	25,980			@	8	0	0 per 100 mds.	2,078	0	0		12,538	0	0
"	Canoes	...	...	...	523	...		@	20	0	0 each.	10,460	0	0				
Bahramghat Depôt,	Charcoal	...	...	Maunds,	4,111			@	40	0	0 per 100 mds.	1,644	6	5		1,644	6	5
In transit	Firewood	...	...	Maunds,	2,618													
	Charcoal	...	...	"	1,000		Not valued.					...				...		
At the edge of Forests,	Firewood	...	...	"	5,000													
	Charcoal	...	...	"	1,000													
												Total value ...				2,11,402	12	5

		Rs.	a.	p.
Value of stock, 1876-77	...	2,69,885	13	0
" " 1877-78	...	2,11,402	12	5
Decrease in value	...	58,483	0	7

Against this there were only 8 logs in transit in 1876-77, whereas in present year there are 1,346 or 1,338 more which, valued roughly at Rs. 40 each, gives about Rs. 52,000.

BAHRAMGHAT:

The 24th September, 1878.

E. WOOD, CAPTAIN,

Conservator of Forests, Oudh Circle.

APPENDIX XX.

Forest Department, N.-W. P. and Oudh, Oudh Circle,

List of Buildings.

Number.	Names.	Property of	Rent when occupied per month.	Amount paid by officer during the year.
				Rs. a. p.
1	Head-quarters, Lakhimpur office and rest-house	Forest Department	Rs. 25 by officer and Rs. 25 by office.	164 2 8
2	Ditto, Bahraich ditto	Ditto	Rs. 30 by officer and Rs. 20 by office.	48 11 4
3	Timber depôt, Bahrámghat	Public Works Department ..	...	...
4	Forest, 1st class Kheri, Dadua	Forest Department	...	...
5	Ditto ditto, Suthiana	Ditto	...	...
6	Ditto ditto, Fort Gori Shah	Ditto	...	...
7	Ditto ditto, Shitabaghat	Ditto	...	...
8	Do., 2nd class Bahraich, Nishangarah	Ditto	...	...
9	Ditto ditto, Motipur	Ditto	...	...
10	Ditto ditto, Charda	Ditto	...	...
11	Ditto ditto, Kakardari	Ditto	...	...
12	Ditto ditto, Bhinga	Ditto	...	...
13	Ditto Gorakhpur, Chauk Sonari	Ditto	...	...
14	Ditto ditto, Ramgarh	Ditto	...	...
15	Ditto ditto, Nagwa	Ditto	...	...
16	Do., Ditto Gonda, Bhagwanpur	Ditto	...	...
			Total Rs. ...	212 14 0

Naini Tál:
The 28th November, 1878.

E. WOOD, Captain,
Conservator of Forests, Oudh Circle.

REPORT OF THE SUPERINTENDENT OF FOREST SURVEYS FOR 1877-78.

No. 446F., dated Mussooree, 10th October 1878.

From—The Surveyor General of India,

To—The Secretary to the Government of India.

I have the honour to submit a letter No. 254, dated 7th instant, from Captain Bailey, R. E., Superintendent of Forest Surveys, forwarding his annual report for the year ending the 1st instant.

2. The report appears to me to be very satisfactory in all respects.

3. I have recently inspected Captain Bailey's office at Dehra, and I was much pleased with the numerous evidences it afforded of the admirable organisation which Captain Bailey has established, and of the happy expedients which he introduces from time to time to enable his survey operations and maps to meet the growing requirements of his Department, as presented in the practical conservation and working of the several tracts of forests which are administered by the Department.

No. 254, dated Dehra Dún, 7th October 1878.

From—The Superintendent of Forest Surveys,

To—The Surveyor General of India.

I have the honour to forward in duplicate my annual report for the year ending on the 1st instant, and to request the favour of your forwarding one copy to the Government of India, with such remarks as may seem desirable.

Annual Progress Report of the Forest Survey Department for the year ending 1st October 1878.

Kumaun and Garhwal Survey.

The field season of 1877-78 was entirely occupied in surveying the forests of Kumaun and Garhwal, including the Naini Tál division, the Ranikhet division, and the Rehar forest in Bijnor. The Naini Tál forests had been triangulated at the close of the previous field season, and I despatched Mr. Litchfield early in October with a party of native surveyors to commence plane-tabling there. The main party under Mr. Reynolds marched for Garhwal in the middle of November. The work first undertaken by Mr. Reynolds was the completion of those portions of the Kotri forest which I have undertaken to survey now, but he detached a party under Mr. Chill to complete the survey of certain portions of the valley of the Patair Pani in the Patli Dún forest. During the progress of this work, the office camp was at Saneh near Kohdwarra; but as soon as it was completed, the camp was moved eastwards to Ramnagar in Kumaun, and the survey of the Chilkia and west Kotah forests, which had been commenced in 1874-75, was continued. The survey of the Iron Company's grant was also commenced. When the weather at Naini Tál rendered it difficult to carry on work there, Mr. Litchfield's party joined the main camp at Ramnagar. They were employed in the Kotri and west Kotah forests from the end of December to the end of April, when they returned to complete the work at Naini Tál. The main camp under Mr. Reynolds remained at Ramnagar until the 16th May, when it returned to Dehra, but Mr. Litchfield remained working at Naini Tál until the middle of July. While the plane-tabling was in progress, the ground to be surveyed in the season of 1878-79 was prepared by triangulation and traversing chiefly in the Iron Company's grant, in Ranikhet, and in the Kumaun forests near Haldwáni.

Field work and computations.

2. A summary of the outturn of field work and computations will be found in Appendix "A." The area plane-tabled (326 square miles) compares favourably with that turned out during the previous season (211 square miles). This is accounted for partly by the fact that the work done at high altitudes around Naini Tál enabled us to make a long field season, partly by a portion of the ground in the Kumaun Bhabar (about 92 square miles) being fairly level, though covered with forest and interesected by ravines, and partly I trust by the increasing skill of the surveyors. The average monthly outturn of a party of 1 European and 6 native plane-tablers at Naini Tál was 19·78 square miles, while that for a party of 1 European and 5 native plane-tablers in the remainder of the work was 10·91 square miles. The average outturn for 1 European and 7·5 native plane-tablers during the season of 1876-77 was 14·4 square miles. The quality of the work is certainly shewing a steady improvement year by year, and the amount of detail shown is now much greater than in the maps prepared during the first years of our work. The distance traversed amounted to 690 linear miles, with an area of 486 square miles; 572 linear miles of traversing have been computed, the average hypothenusal correction on the traverses being 4·8 per 1,000. The number of trigonometrical stations fixed within an area of 475 square miles was 833, of which 613 have been computed and 220 remain to be computed. To fix these 613 stations, 1,154 triangles were worked. In

addition to the above-mentioned work, the rectangular co-ordinates of 616 stations of the Great Trigonometrical Survey were computed from their latitudes and longitudes; 298 heights were worked trigonometrically; and of 1,214 observations with the aneroid barometer, 650 have been computed.

Drawing and miscellaneous work.

3. A summary of the drawing and miscellaneous work done in my office during the past year will be found in Appendix "B." In addition to eight fair drawings and one skeleton sheet of the original survey in progress, two sheets of Mr. Hill's map of part of the Pegu division, and an index to the Kumaun and Garhwal Forest Survey have been drawn. The forest map of the North-Western Provinces, scale 1"=8 miles, was completed, and five miscellaneous original maps were drawn.

4. During the past year I devoted my attention specially to obtaining the best possible collection of forest maps for the provinces under the Government of India, and I have succeeded in obtaining nearly complete sets for the North-Western Provinces and Oudh, for the Central Provinces, for Berar, and for Ajmere and Mhairwarra. The forest reserves have been reduced on to convenient small scale maps of the provinces, and also on to the atlas sheets. By order of the Government of India, I prepared a set of 71 forest maps, mounted in book form, and sent them to the Paris Exhibition. I also supplied to the Inspector General of Forests, the Government of the North-Western Provinces and Oudh, and Conservators of Forests 329 maps similarly mounted, hand additions being made to many of them: 561 copies of the map of the Sidli circle, Assam, and 240 sheets of the Dehra Dún and Siwaliks survey were coloured, and two considerable tracings from original field sheets were made. I also had the forest growth recorded on 37 sheets of the Dehra Dún and Siwaliks survey. It will be observed that the amount of work of this nature executed in my office has very much increased.

Summary of expenditure.

5. A summary of expenditure will be found in Appendix "C." The total cost of the work done in the field was Rs. 34,674, including the triangulation and traversing done in advance. If the cost per mile be estimated on the area plane-tabled, the result is Rs. 107, as compared with Rs. 141 in the previous season.

Officers of the permanent staff.

Captain Bailey, R. E., Superintendent, Forest Surveys.

6. After the main party under Mr. Reynolds had moved into camp, I remained at Dehra to pass and send off the fair sheets that had been drawn during the recess months. I joined the camp at Saneh early in January, returning to Dehra at the beginning of February, to arrange for the sending of a set of maps to the Paris Exhibition. I rejoined the camp on the 4th March, and remained with it until the 2nd May, when I went to Ranikhet to arrange for the work to be done there. From Ranikhet I went to Naini Tal *viâ* Almora to inspect Mr. Litchfield's work, and I returned to Dehra on the 17th May.

Mr. W. H. Reynolds, Deputy Superintendent, Forest Surveys.

Mr. Reynolds left for Garhwal on the 13th November, and returned to Dehra on the 18th May. He was employed during the whole season in superintending plane-tablers, and he took general charge of the survey when I was not with the camp. Mr. Reynolds has done excellent service during the whole year, and his name has been specially brought to the notice of the Inspector General of Forests. He obtained three months' privilege leave from 1st June to 1st September.

Mr. H. C. Hill, Deputy Conservator of Forests on deputation.

Mr. Hill after completing the work for which he came to Dehra returned to Burma on the 29th November.

Mr. E. F. Litchfield, Officiating Assistant Conservator of Forests.

Mr. Litchfield was employed in the Naini Tal division from 15th October to 24th December, and from 25th April to 21st July. During the interval he was employed under Mr. Reynolds in the Kumaun forests. He continues to give me satisfaction.

Mr. W. M. Kelly, Officiating Sub-Assistant Conservator of Forests.

Mr. Kelly joined from the Topographical Survey Department on the 1st November, and has since been employed in the head-quarters office at Dehra chiefly in compiling the provincial forest maps alluded to in paragraph 3.

Mr. J. C. Murray, Officiating Sub-Assistant Conservator of Forests.

Mr. Murray joined from the Topographical Survey Department on the 25th April, and has since then been employed at the head-quarter's office at Dehra chiefly in compiling provincial forest maps.

Officers under instruction—
Mr. Jellicoe.
„ Stewart.
„ Down.

7. Messrs. Jellicoe, Stewart, and Down, who were under instruction on the date of my last report, all obtained certificates of qualification in surveying and returned to their appointments on the 13th December, the 7th February, and the 10th March respectively. There are at present no officers under instruction.

Candidates for the superior grades of the Forest Department.

8. During the year I have undertaken the instruction of several gentlemen who were candidates for appointment to the superior grades of the Forest Department, and have given certificates of qualification to most of them. I have also examined and reported on the maps and field books of a number of candidates at a distance.

Forest surveyors.
Mr. G. P. Chill.

9. Mr. Chill was employed from the 12th November to the 1st June in superintending native plane tablers in Kumaun and Garhwal. He continues as heretofore to give me much satisfaction.

Mr. T. S. Marten.

Mr. T. S. Marten went to Garhwal on the 1st January, and remained in camp until 15th June. He was at first employed by himself in surveying a piece of hilly ground, but he afterwards had charge of some native plane-tablers.

Mr. E. V. Fitzgerald.

Mr. Fitzgerald left for Ranikhet on the 20th October, and was employed in triangulating there until March, when he came down into the Kumaun forests. Here also he was employed in triangulating until the 12th May, when he returned to Dehra. He did his work in a very satisfactory manner.

Mr. James Marten.

Mr. James Marten left for camp on the 5th January, and remained in Kumaun until the 22nd May. He was at first employed by himself in plane-tabling a piece of hilly ground; but he afterwards took charge of one or two native plane-tablers. He is very painstaking and trustworthy, and is acquiring considerable skill both as a surveyor and draftsman, and in charge of the map printing.

Native establishment.

10. The native establishment has, as a rule, worked very well, and the plane-tablers are improving very much. The average strength during the principal part of the field season, from November to May, was as follows:—

Triangulating	1
Plotting boards	1
Traversing	4
Computing	4
Plane-tabling	22½
Barometer	1
Total in the field	33½
At head-quarters	9
TOTAL	42½

Three of the native plane-tablers were beginners.

11. In conclusion, I may here mention that it having been represented to me that the hill-shading on the sheets of the maps now turned out was heavy, and impeded their usefulness for forest purposes, I had an experimental skeleton sheet drawn (No. XXXIII of Kumaun and Garhwal), in which I showed not only the watercourses, roads, village sites, and such other items as are generally shewn in a skeleton sheet, but also the principal ridges and spurs. I showed this map to the Inspector General of Forests, and he approved of it as being suitable for use by the officers of the Forest Department. It did not, however, appear to me to be possible to limit the field work to the amount of detail shown in the skeleton map, because the amount actually required in each particular case is not known. Neither did it appear to me desirable to draw the fair sheets in skeleton only, partly for the same reason, and partly because such sheets would be useless for ordinary purposes, and for incorporation with the maps drawn by the Surveyor General's Department. It seemed, therefore, likely that work in the field must proceed as heretofore, and that if skeleton maps are required they must be in addition to the shaded sheets. It struck me, however, that if blue prints could be brought into use, forest officers would be in possession of maps which would be light enough to enable them readily to record information on them either by colour or in writing, while they would be in possession of all available detail without the additional expense of a second drawing and photozincographic process. The Inspector General approved of my suggestion to utilise blue prints, and I am about to issue some of them as an experiment.

F. BAILEY, *Captain, R. E.,*
Superintendent, Forest Surveys.

DEHRA DUN,
The 7th October 1878.

APPENDIX A.

Summary of the outturn of field work and computations by the Forest Survey Department during 1877-78.

	Kumaun and Garhwal survey.	Amount.	REMARKS.
1	Area plane-tabled on the scale of 4″=1 mile	326½	Square miles.
2	„ triangulated	475	„
3	„ traversed	486	„
4	Number of linear miles traversed	690	
5	„ „ „ of traversing computed	572	Average correction on the hypothenuse 4·8 per 1,000.
6	„ of triangles worked	1,154	
7	„ of points fixed thereby	613	
8	„ of Great Trigonometrical stations computed	616	
9	„ of heights worked trigonometrically	293	
10	„ of barometrical observations	1,214	
11	„ of „ „ computed	650	

NOTE.—For the work of the coming field season, there are 350 square miles triangulated and traversed in advance, and 225 square miles triangulated only.

F. BAILEY, *Captain, R.E.,*
Superintendent, Forest Surveys.

APPENDIX B.

Summary of the outturn of drawing and miscellaneous work by the Forest Survey Department during 1877-78.

	ORIGINAL DRAWINGS.	
1	Dehra Dún and Siwaliks, sheet XLIII	The last sheet.
2	Kumaun and Garhwal, sheets XVI, XVIII, XXII, XXV, XXVI, XXX, XXXI, and a skeleton of sheet XXXIII	8 sheets.
3	Forest map of Pegu division, British Burma, sheets II, IV	2 sheets.
4	Index to Kumaun and Garhwal Forest Survey	1 sheet.
5	Forest map of the North-Western Provinces, 1″=8 miles	1 „
6	Patiala and States near Simla drawn from original Great Trigonometrical Survey field sheet	1 „
7	Jubal and surrounding states copied from a map drawn in the Great Trigonometrical Survey Office	3 sheets.
8	Tehsil Patankot, district Gurdaspur, enlarged from the printed map	1 sheet.
	FORESTS DRAWN ON PRINTED MAPS.	
	Central Provinces.	
9	31 forest reserves on 52 printed sheets reduced on to the 1″=16 miles map of the Central Provinces	
	The same 31 reserves reduced on to the atlas sheets	
	Ditto ditto 1″=64 miles map of India	
	Berar.	
10	11 forest reserves on 10 printed sheets reduced on to the 1″=10 miles map of Berar ...	
	The same 11 reserves reduced on to the atlas sheets	
	Ditto ditto 1″=64 miles map of India	
	North-Western Provinces and Oudh.	
11	The forest reserves of the Central, Oudh, and School Circles, aggregating 3,391 square miles, on 43 printed sheets reduced on to the 1″=32 miles map of the North-Western Provinces and Oudh	
	The same reserves reduced on to the atlas sheets	
	Ditto ditto 1″=64 miles map of India	
	Ajmere and Mhairwarra.	
12	14 forest reserves on 6 printed sheets reduced on to the atlas sheets (as far as these are published)	
	The same reserves reduced on to the 1″=64 miles map of India	
13	Sheets mounted on cloth in book form, coloured and sent to the Paris Exhibition, the Government of the North-Western Provinces and Oudh, the Inspector General of Forests, and Conservators of Forests	
	Mounted and coloured with additions by hand	88 sheets.
	Mounted and coloured	312 „
	Tracings	5 „
14	Copies of Sidli forest map coloured for the Deputy Conservator of Forests, Assam ...	561 „
15	Copies of Dehra Dún and Siwaliks sheets XXVI, XXVIII, XXIX, XXXII, XXXIII, XXXIV, XXXV, XXXVI, XXXVII, XXXVIII, XXXIX, and XLI, colored ...	240 „
16	Tracing from original field sheets of the Lambátach and Deota forests	1 sheet.
17	Tracing from the original field sheets of the Mondhal Valley in Garhwal for the Conservator of Forests	1 „
18	Forest growth recorded on 37 sheets of the Dehra Dún and Siwaliks map ...	

F. BAILEY, *Captain, R.E.,*

Superintendent, Forest Surveys.

APPENDIX C.

Statement of expenditure by the Forest Survey Department from 1st October 1877 to 1st October 1878.

	Months.	Dehra Dún.	Kumaun and Garhwal.		Jaunsar.	General.	Total.
			Field.	Office.			
1	October 1877	548	...	1,947	839	1,075	4,409
	November "	573	1,031	913	809	1,024	4,350
	December "	528	3,780	457	122	847	5,724
	January 1878	412	4,178	134	40	751	5,515
	February "	341	4,923	22	20	694	6,000
	March "	20	4,912	26	...	1,278	6,236
	April "	9	4,984	...	...	965	5,958
	May "	...	4,948	...	...	1,009	5,957
	June "	12	4,516	594	...	1,244	6,366
	July "	52	930	1,520	9	2,067	4,578
	August "	216	472	1,858	...	2,045	4,591
	September "	169	...	1,728	5	2,176	4,078
			34,674	9,199			
	Total ...	2,870	43,873		1,844	15,175	63,762

F. BAILEY, *Captain, R.E.,*
Superintendent, Forest Surveys.

No. 1176F., dated Calcutta, 9th December 1878.

From—The Secretary to the Government of India,
To—The Surveyor General of India.

I am directed to acknowledge the receipt of your letter No. 446F., dated the 10th October last, submitting with your remarks the Annual Report of the Superintendent of Forest Surveys for the year 1877-78.

2. The report gives proof of good progress made in the survey of the Government forests of Kumaun and Garhwal and the Bijnor district of the North-Western Provinces, and it shews that at the same time a great variety of important work relating to the preparation of forest maps and the instruction of forest officers has been accomplished by the Superintendent.

3. The Honourable the President in Council desires to express his satisfaction at the high testimony borne by you to the skill with which Captain Bailey has organised the work of the Forest Survey, and is pleased to convey to you the thanks of the Government of India for the assistance which you have continued to give to the work of the forest survey.

4. By placing Captain Bailey in charge of the forests attached to the Forest School, which it has been decided to establish at Dehra Dún, and by entrusting him with the organisation of that new institution, the Honourable the President in Council has shewn his confidence in the zeal and ability of that officer. In addition to his work as Director of the Forest School and Conservator of the School Forests, Captain Bailey will continue to hold charge of the Forest Survey under your professional supervision, and His Honour in Council trusts that the intimate connection which will thus be established between the Forest Survey and the Central Forest School will tend to increase the usefulness of these two important institutions.

5. Captain Bailey's report, with a copy of your remarks, will be printed and appended to the Forest Administration Reports of the North-Western Provinces and Oudh for the year 1877-78.

Nos. 1177-78F.

Copy forwarded for information to the Government of the North-Western Provinces and Oudh, and to the Superintendent of Forest Surveys.